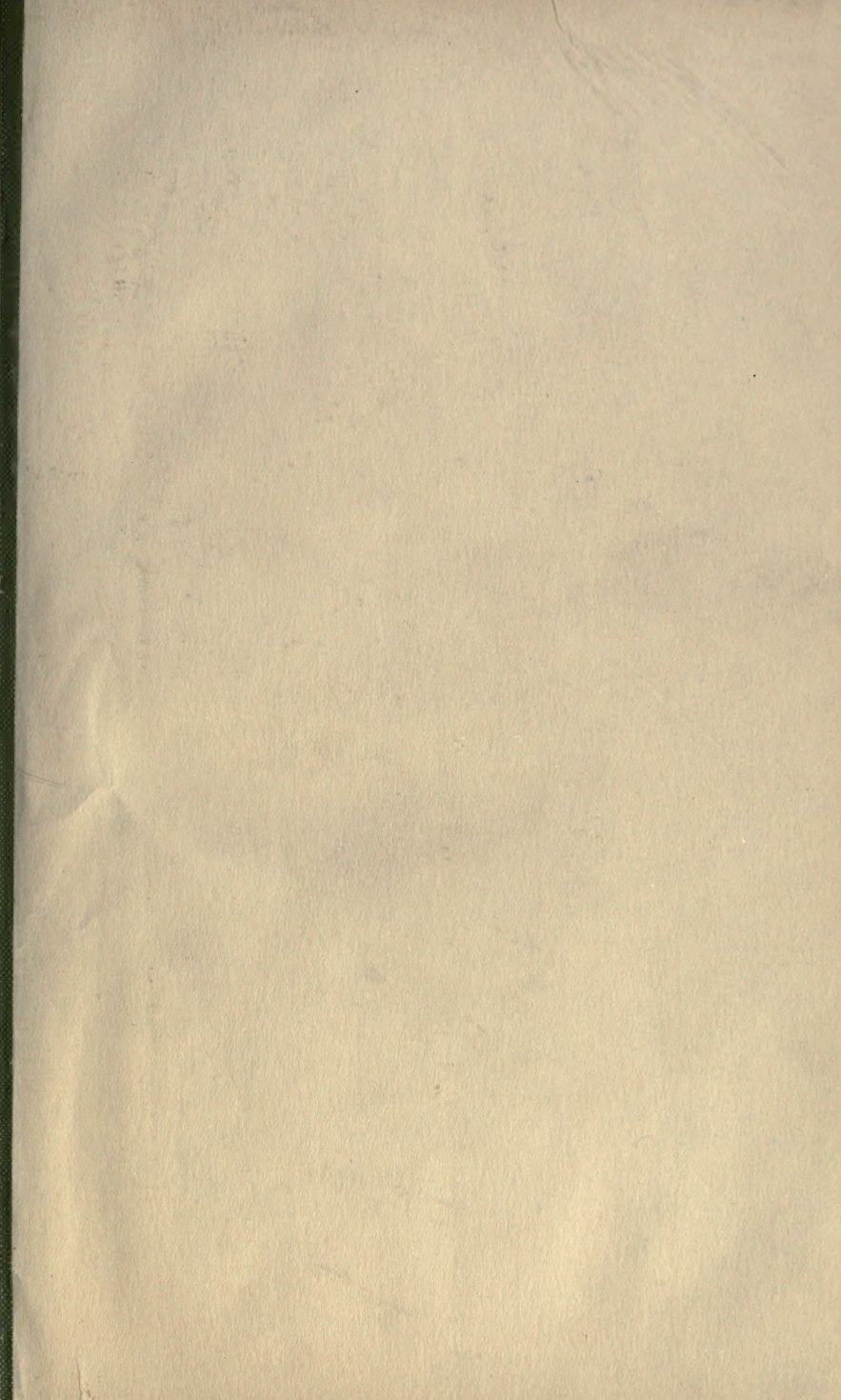





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AN INTRODUCTION

DERMATOLOGY

BY DR. J. H. H. H. H.

Author of "The Skin and its Diseases"
and "The Treatment of the Skin"
LONDON

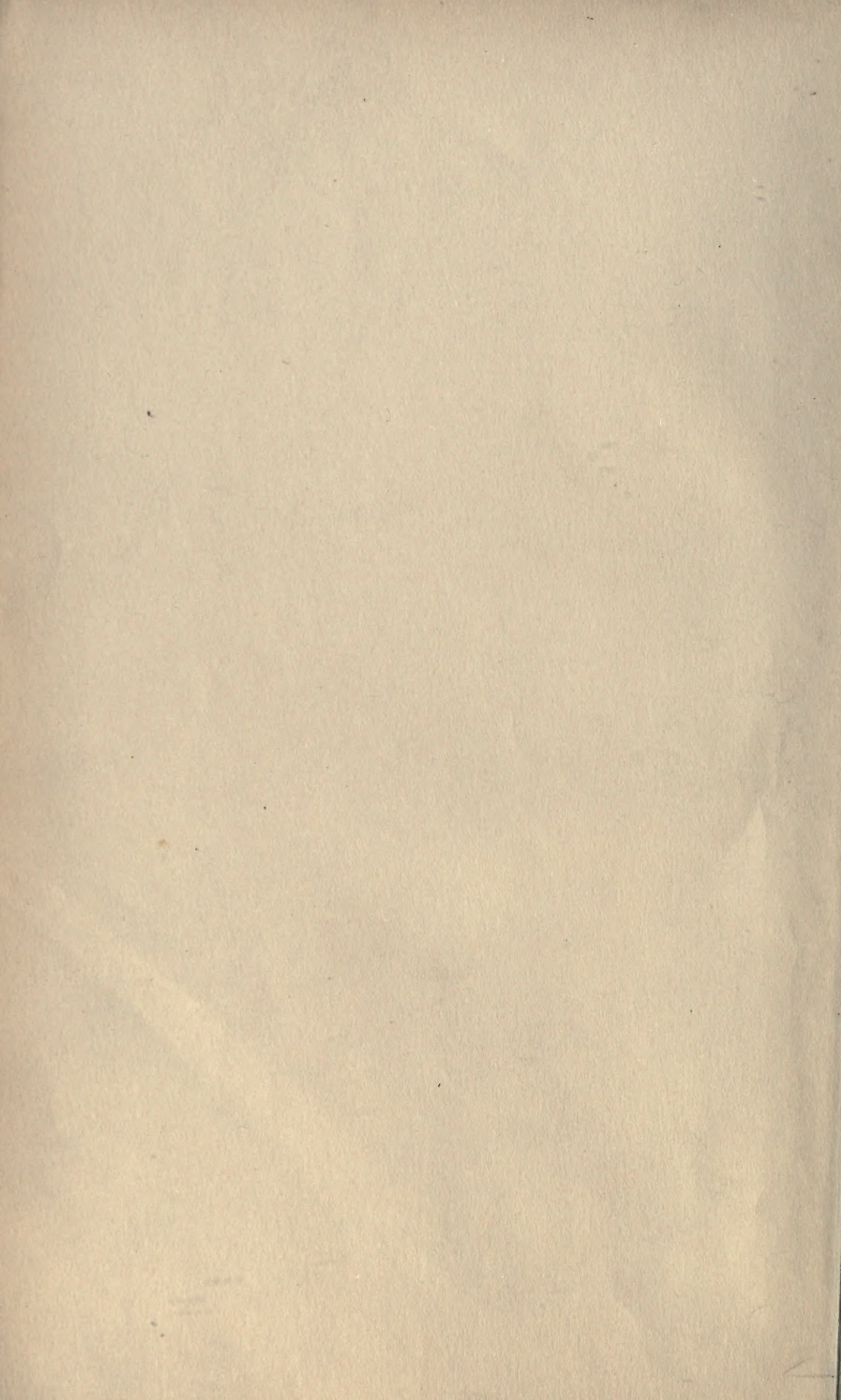
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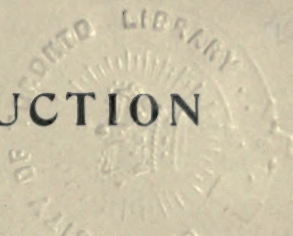
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1895



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AN INTRODUCTION TO DERMATOLOGY

BY
NORMAN WALKER, M.D., F.R.C.P.

PHYSICIAN FOR DISEASES OF THE SKIN
THE ROYAL INFIRMARY
EDINBURGH

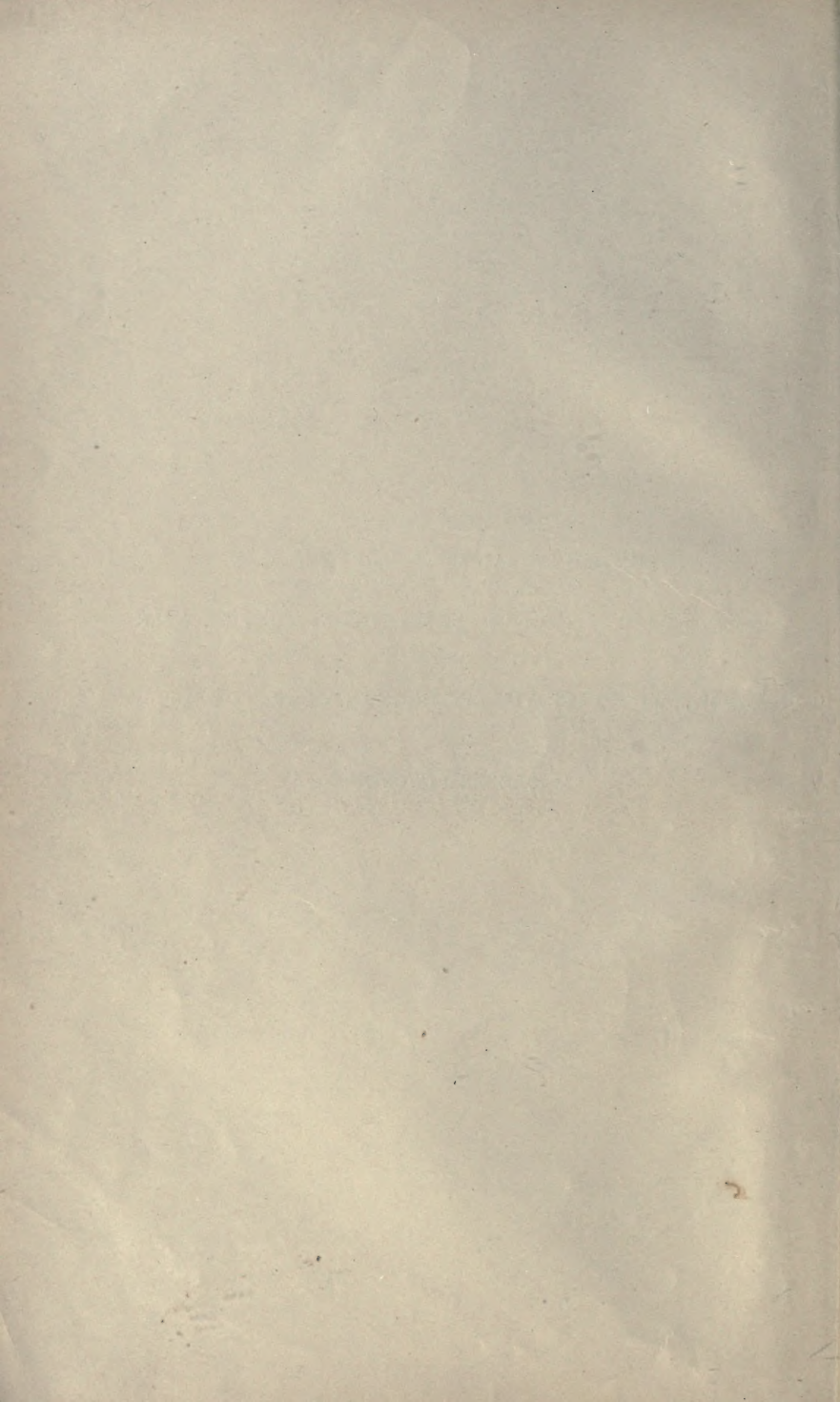
FIFTH EDITION

*WITH 43 COLOURED PLATES AND 79 ILLUSTRATIONS
IN THE TEXT*

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TO
THE MEMORY OF
SURGEON-GENERAL M. W. MURPHY, A.M.S.
(Formerly of the 80th and 91st Regts.)
SURGEON-MAJOR FRANCIS HENRY SWINTON MURPHY, A.M.S.
AND
SURGEON-CAPTAIN WILLIAM NORMAN MURPHY, A.M.S.
MY
UNCLE AND COUSINS.



PREFACE TO THE FIFTH EDITION

IN rewriting this edition I have endeavoured to keep to the plain lines I laid down years ago.

Such new methods as can be used by everyone I have fully described; for the more elaborate ones larger works must be consulted.

The coloured plates in the last edition were so much appreciated that I have added several others, all taken from casts by Dr. Cranston Low or Miss Rae, from patients under my care.

I am further greatly indebted to Dr. Low for the trouble he has taken in seeing these through the press, and to Miss Rae for the enlarged index.

NORMAN WALKER.

EDINBURGH, *February* 1911.

PREFACE TO THE FIRST EDITION

THIS work is practically a reproduction of the lectures which for several years I have delivered to my students, and I venture to hope that they may be found useful by a larger audience.

It is to be noted that the title of the book is "An Introduction to Dermatology," and that it does not profess to be a complete system. I have described fully all the more common diseases, and less completely those rare ones which the ordinary practitioner is likely to meet with; while I have omitted, for the sake of space, those rare conditions which are mainly of interest to the specialist.

I have to acknowledge much help received from the writings, etc., of others. In the first place, I owe a great deal to Dr. Allan Jamieson. I feel, indeed, that I have hardly done him sufficient justice in the text. Being so closely associated with him, I have unconsciously absorbed much of his teaching, and I desire here to express my gratitude for all I have learned from him. It is, however, only right to make clear that the "new-fangled" ideas in the book are my own; in particular, those on Eczema, Seborrhœa, Lichen, and Lupus erythematosus.

Another to whom, as is evident from my frequent references, I owe much, is my friend Dr. Unna. No one can write on the skin without frequently quoting his name, and we have been on such intimate terms for the last few years that I naturally do so more than most. He has been good enough to read and criticise for me the section on Seborrhœa; and his contribution to Eulenberg's "System," on the general Therapeutics of the Skin, which he was so kind as to supply me with while it was passing through the press, has been of much value to me in the preparation of that section.

To the published works of others I am much indebted—in particular to those of Hebra, Tilbury Fox, Erasmus Wilson, Crocker, Morris, and Liveing.

The microscopical drawings, with the exception of Figs. 1, 2, and the animal parasites, are from my own preparations, and they and all the coloured plates are the work of Mr. J. Grieve, to whom I desire to express my thanks for the care and trouble he has taken with them.

Of the photographs, while most are from my own collection, some are from friends, and are acknowledged in the text.

The University of Edinburgh has at last “recognised” a course of clinical lectures on Dermatology, and I trust that this work will do its share in imparting to the students that amount of systematic knowledge which is essential to a thorough understanding of the subject.

EDINBURGH, 1899.

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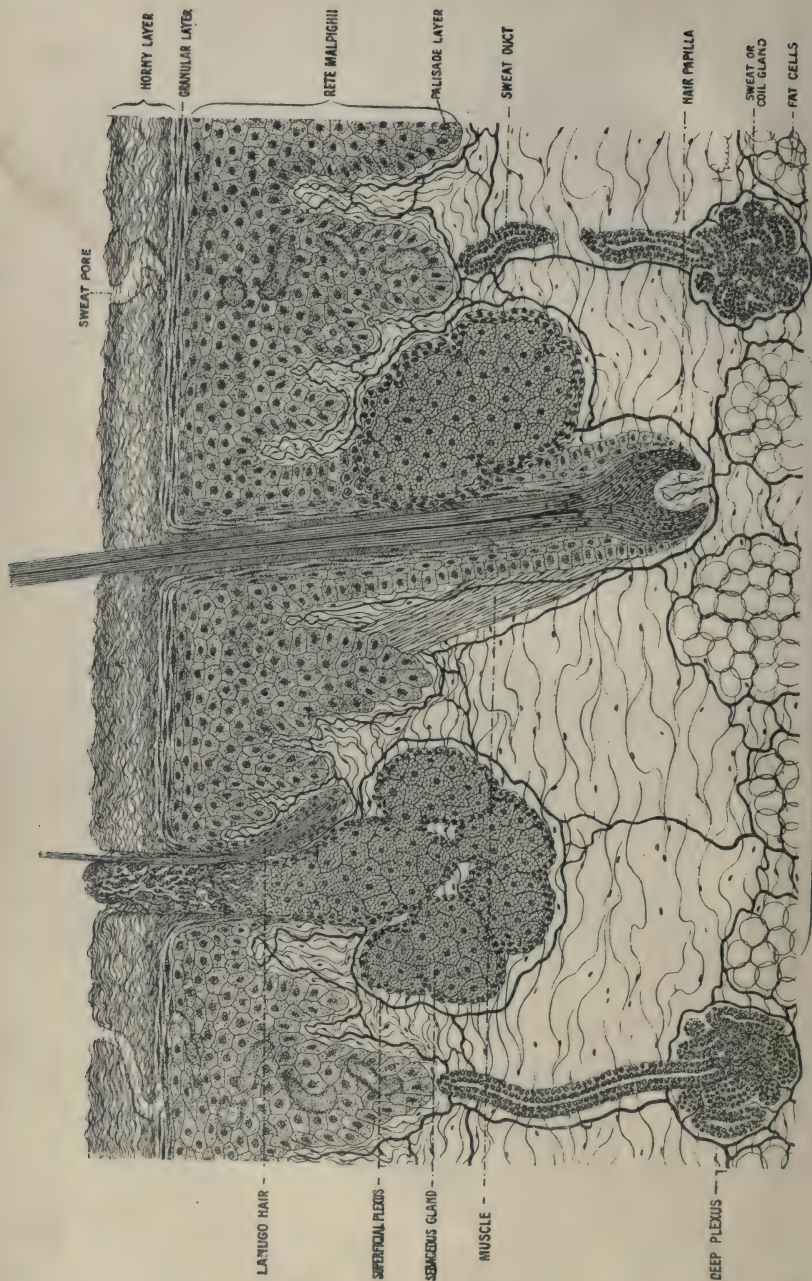


Diagram of Vertical Section of Skin.

FAT CELLS

AN INTRODUCTION TO DERMATOLOGY

SECTION I

INTRODUCTORY

LIKE other organs, the skin is made up of connective tissue, blood-vessels, lymphatics, nerves, and special cells (in this case epithelial), and it is consequently liable to exactly the same changes. These are, of course, just as in other organs, modified by the special structure of the organ, and in the case of the skin they are further modified by the circumstance of the tissue being exposed to view, and the processes being as it were one-sided. From its position the skin is more exposed to, and exposed to more forms of irritation than are the other organs, and consequently finer variations in pathological processes can be observed. But the essential changes are the same, and diseases of the skin follow the same laws as do those of the other organs.

Thus we find in the skin congenital malformations, hyperæmia, anæmia, inflammation, hypertrophy, and atrophy. New growths abound, and parasites flourish. The great majority of the familiar diseases, however, come under the category of inflammation, and may be produced by an immense variety of irritants, to some of which (*e.g.* heat, cold, light, friction, etc.) the internal organs are relatively strange.

The skin is made up of the epidermis or cellular layer; along with which should be reckoned its derivatives, the hair follicles, the hairs and nails, and the sebaceous and sweat or

coil glands; and the corium or true skin, with its vessels, nerves, and lymphatics. In the epidermis the cells undergo a gradual process of evolution from the columnar (basal) cells to the cornified superficial layers. Beginning with the basal or germinal layer (*Stratum germinativum*), next come the prickle layer (*Stratum mucosum*, rete Malpighii), the granular layer (*Stratum granulosum*), the clear layer (*Stratum lucidum*), and the horny layer (*Stratum corneum*). See diagram.

The **Germinal Layer** consists of small and regularly arranged columnar cells, with here and there a mitotic figure. Mitotic figures are also found in the lower layers of the next stratum; growth and division extend beyond the limits of the germinal layer. These cells contain varying amounts of pigment, according to the colour of the skin.

Following this is the **Prickle Layer**, and our knowledge of its structure has been gradually evolved. The earliest idea was that these cells, which are larger than the germinal ones, and polygonal in shape, fitted into each other by a series of teeth, the prickles, which dovetailed into one another. It was next observed that the prickles did not fit into each other, but met end to end, and they were then described as intercellular bridges, through the arches of which flowed the lymph which nourished the cells. Most recent observations show that these prickles are not mere processes from the cell membrane for the purpose of keeping the cells apart, but that they are fibres of intracellular spongio-plasm, which pass from one cell, often through one or more cells, to join another at a distance. The whole of the cells of this layer are consequently in organic connection with one another, and Ranvier has compared it to one vast cell with many nuclei (Fig. 1).

In the **Granular Layer** the cells are, in section, elliptical in shape (they are really flattened vertically), and when treated with any nuclear stain certain granules in the protoplasm of the cell take the stain deeply, and produce the appearance from which the layer derives its name. These granules consist of two substances named keratohyalin and eleidin, probably stages in the transformation of the protoplasm of the cell into the keratin or horny material of which the surface cells are composed, or the fatty material with which they are loaded.

The next layer, the **Stratum Lucidum**, which is best seen in the skin of the palms and soles, appears in unstained sections as a clear streak, without any evident structure. When carefully prepared, however, it also is found to consist of cells swollen and soaked with fat, into which the stain does not penetrate. This fat is known as eleidin, a homogeneous oily-looking substance in and between the cells. It does not, however, stain with osmic acid in the ordinary way. Duhring

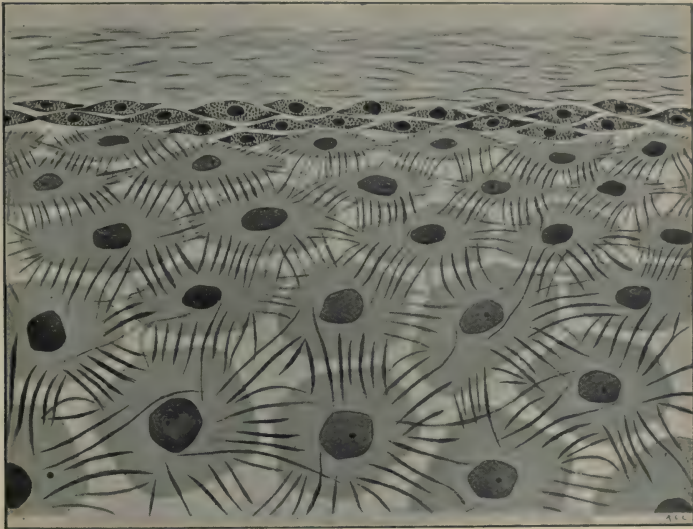


FIG. 1.—Showing the fine fibrils of the epithelial cells.

and Unna look upon the **Stratum Lucidum** as part of the horny layer.

The **Stratum Corneum** is made up of three distinct layers. It varies in thickness, being thinnest on the face and on the flexor aspects of the extremities, and thickest on the palms and soles. The lower layer, next to the stratum lucidum, contains a large amount of fat, which makes it waterproof, and is deeply blackened by osmic acid. The cell elements are closely packed. Following this comes a looser layer which seems to consist chiefly of cell membranes, with traces of nuclei only here and

there. The cells are held together by the remains of the inter-cellular fibres, which also undergo keratinisation. The outer layer is more dense, the cells are closely packed together, and are constantly desquamating on their outer surface. This also is deeply blackened by osmic acid.

The appendages may be considered along with the epidermis, of which they are all simply variously modified depressions. At an early stage of foetal life solid prolongations of the epidermis descend into the corium, and there are differentiated into the various appendages.

Thus a **Hair Follicle**, when it has grown a certain length down into the corium, is met by an up-growth, a little capillary loop, which forms the papilla of the hair. This, so to speak, turns the epidermic attack, and the cells in the centre are so modified as to form a hair. It is not of very great moment to commit to memory all the different layers, with the famous names which are attached to them, of the hair follicles. Enough is understood when the mode of development is borne in mind.

The **Sebaceous Glands**, which are almost always in close relation to the hair follicles, are also mere extensions of the epidermis, but their energies are differently directed, and the cells, instead of forming a hair, undergo a peculiar fatty metamorphosis which ends in their breaking down into the excretion which we know as sebum. Pembrey suggests that the cells, like those of the mammary gland, may discharge their contents and resume work again. At the border of the gland the cells are of the same type as those in the germinal layer of the skin, but as they grow towards the centre they enlarge, owing to the presence of fat, often to ten times their original size. The shape of the gland depends upon the blood-vessels of the corium below it. As the epidermis grows downwards it is able to advance steadily against the fibrous tissue, but when in its advance it meets a blood-vessel the blood-vessel prevails, and the epithelium divides and passes down on each side of it. This is the explanation of the lobulated character of the sebaceous gland.

The **Coil Gland** is developed in very much the same way, except that the process is narrower, and descends farther into the corium. When it reaches a certain depth its growth

downwards ceases, and it increases by coiling upon itself. The duct is lined by one or two layers of cells, the coil by from one to three, according to its thickness. While the sebaceous gland opens with a distinct mouth, either on the surface or into a hair follicle, the sweat duct terminates at the germinal layer. From this point a channel may be traced between the cells of the epidermis, where the sweat communicates freely with the inter-epithelial lymph, and the duct reappears in the well-known corkscrew form in the horny layer. It will be noticed that the expression "coil" has been used instead of the more usual one of sweat gland. The sweat glands, while they undoubtedly do excrete on the surface a watery fluid, are not concerned with that excretion solely. Indeed, Uma attributes to them the principal share in lubricating the skin, and a properly conducted examination will never fail to discover in the lumina or cells of these glands a certain, sometimes a considerable amount of fat. The coil is almost invariably placed in immediate relation to a lobule of fat, from which it probably derives substance, and the fact that the palm of the hand, where, if anywhere, perfect lubrication of the skin is required, contains no other glands but coil glands, is a strong piece of clinical evidence bearing on the character of their excretion. The amount of fat which is observed in the lowest horny layer can hardly conceivably be derived from the sebaceous glands, which open upon the surface with a distinct walled opening.

The connective tissue of the **Corium** is arranged in three layers. The deepest one, in which are often the roots of the hairs and some sweat glands, is loose, and the fibres are coarse. In the middle layer the fibres are finer, and are closely arranged in horizontal bundles. The upper part of the corium is known as the *papillary body*, and immediately adjoins the epidermis. In it the fibres are much finer, and their arrangement is looser and more irregular, showing none of the horizontal stratification of the middle layer. The lymph spaces are wide, or at least have an infinite capacity for widening, and here are found most of the deeper pathological changes in the more common diseases. It is upon this layer that the epidermis depends for its nutrition, and from it processes—papillæ—project into the epidermic

layer. Sections of the skin give rather a misleading idea of the true relation of the papillæ to the epidermis, which is shown in the accompanying figure. Numerous elastic fibres are distributed throughout the corium.

The **Blood-vessels** of the skin are distributed, roughly speaking, in two layers. At the lower border of the corium is the deep plexus, sending branches to surround and supply the coil glands and hair papillæ. At the upper border of the corium, just where it passes into the papillary body, we find

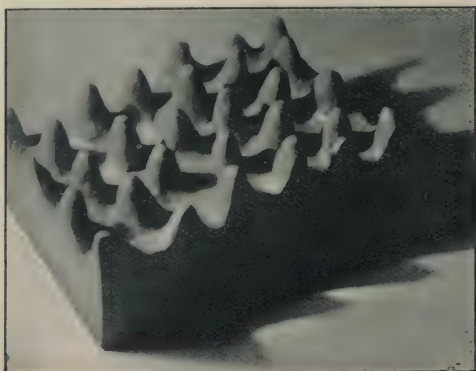


FIG. 2.—Photo of plasticine model of the papillæ of the skin.

the superficial plexus sending off processes into the papillæ, each of which contains a fine capillary loop.

The **Nerves** of the skin are fascinating subjects for study. Their terminations may be traced into the *Pacinian* and *Meissner's* corpuscles, into and between the epidermic cells. They may be found in relation to the hair follicles, and in numbers around the coil glands. Their direct bearing on the diseases of the skin is obscure, and definite changes in them have been found only by a few favoured individuals, and not regularly even by them.

The **Muscles** of the skin are found mainly in relation to the hair follicles and sebaceous glands, where they take their origin. They are non-striped, and terminate high up in the corium, being attached to the connective tissue fibres. One of

their functions is the expression of sebaceous material from the glands. Muscular fibres are also found in certain special situations, such as the scrotum and the nipple. Not of much importance pathologically, their spasmodic contraction increases very much the sufferings of the patient when the skin in these parts is inflamed.

The structure of the *nails* is of such importance in connection with their diseases that its consideration will be reserved for that section.

CLASSIFICATION

Classification is the chief burden of everyone who has to teach dermatology. Malcolm Morris very truly says that "while it is a good servant it is a bad master," and slaves to classification are rarely good teachers. Ever since dermatology became a science it has been the aim of its leaders to formulate a perfect classification; they are still aiming. Some have classified diseases according to what are called the primary lesions, and put them in one or another class according as the first morbid change observed is in the form of a papule, pustule, vesicle, bulla, scale, etc.

Willan, the father of British dermatology, used this form of classification, while Erasmus Wilson advised what he called a "clinical" classification, which comprised no fewer than twenty-two varieties. While such a system may prove useful to the expert, it is of little value to the beginner.

The French school classed diseases according to supposed diatheses, some of which are unknown to the general pathologist.

Hebra endeavoured to found on a pathological basis: Hyperæmia, Anæmia, Anomalies of secretion and exudation, Hæmorrhages, Hypertrophy, Atrophy, Neoplasms, Pseudoplasms, Ulcerations, Neuroses, and Parasitic diseases. While there is much in favour of some such method, it undoubtedly leads to some anomalous associations.

Some in despair have had recourse to the exceedingly practical plan of using the alphabet as their means of classifi-

cation, and describing diseases under A, B, and C. Even if there were universal accord as to nomenclature, the plan is useless to those who are not familiar with skin diseases. From the student's point of view almost any system is better than none.

To my mind the best, though admittedly imperfect attempt at classification is that followed by Unna in his "Histopathology of the Skin." It is at all events a more logical one than some of the others, which are too often regardless of the primary principles of classification.

I have found it desirable to modify it somewhat in the practical direction.

The system will be found in full in the Table of Contents, which the student should read carefully after he has attained a certain familiarity with the ordinary diseases of the skin. Some explanatory remarks will, however, not be out of place here.

The **Anomalies of Sensation** are simple and clear. Itching, pain and anæsthesia, without any antecedent local lesions, are all that are included. Local lesions produced by scratching may be present when the patient presents himself for examination; these are subsequent, not antecedent lesions.

The **Anomalies of Secretion**.—The increase, decrease, or alteration of the character of the sweat secretion naturally come under this heading. Secondary to these, especially when the secretion is excessive, there are often inflammatory and other changes in the skin, but their subsidiary character is evident. Seborrhœa, which is generally included under this heading, may undoubtedly be accompanied by increased activity in the growth and breaking down of the epidermic cells by which alone the sebaceous secretion is produced, but the disease we know clinically as seborrhœa is a form of inflammation.

The **Anomalies of Circulation**.—Purpura, though it is manifested on the skin, is really a disease of the blood, and is fully dealt with in all the modern text-books of medicine.

In previous editions I followed Unna in placing the erythematæ under the heading of neurotic inflammations. Experience has, however, convinced me that they are so closely related to urticaria that I have transferred them to this section, as I

have done for some time in my lectures, and treat both diseases under the heading of angio-neuroses.

Inflammations.—In a classification of the diseases of any organ the various forms of inflammation form the largest group, and the skin forms no exception to the rule. Redness, heat, itching (instead of pain) and exudation or swelling, are present in the majority of the diseases which come under this heading: the extent of the skin is so great that the *functio laesa* is only rarely observed. In many diseases the reaction is so mild and superficial that the cardinal symptoms are not noted, and only a microscopic examination discloses the signs of inflammation.

The main division into traumatic, neurotic, and infective is merely provisional and convenient. The terms are not mutually exclusive, and all three factors may play a part in any given case, though one invariably predominates. Closer criticism of the subdivisions of this section will be found in the pages dealing with them.

New Growths require no definition. I have omitted Unna's section of Retrogressive Disturbances of Nutrition. In such a complete work as his there is no doubt room for such a chapter, but the diseases which need description under that heading have sufficient relation to the granulomata to justify their inclusion in that section.

The other sections, **Malformations**, **Saprophytes**, and **Anomalies of Pigmentation**, require no explanation.

DIAGNOSIS

The diagnosis of any given case may be very easy, or it may be, for the time, absolutely impossible.

Dermatology is not practical chemistry (qualitative analysis), where, by adding various solutions, the observer is enabled by a process of elimination to arrive ultimately at an absolute diagnosis.

Dermatology can neither be taught nor learned in this manner. Accuracy of diagnosis can only be acquired by a wide knowledge of the various diseases affecting the skin,

and by making ample use of the experience gained in each and every department of medicine.

To the student the subject appears strange, for it seems to appeal almost exclusively to the eye, while the senses he has mainly been trained to use in medicine are those of touch and hearing.

While the eye is by no means our only aid (the sense of touch in many diseases, notably syphilis, being of very great value), a mere picture on the retina of the "pimple" on the skin does not advance matters very much. The picture on the retina must be conveyed to and analysed by the brain, while the eye must penetrate the surface of the "pimple" and divine the nature of the process present beneath.

The distribution of the various eruptions is very important, but too much importance is in my opinion often attached to it. "Psoriasis attacks the extensor, eczema the flexor surfaces," is one of those phrases which sinks especially deep into the student's mind, although its practical value is almost *nil*. One or two diseases have special seats of preference, but these must be learnt in connection with the different diseases, and it seems to me mere waste of time for the student even to read long lists of diseases which may occur on the back, chest, or limbs.

"No opinion should be definitely pronounced until every portion of the eruption has been seen." This is one of those statements which need not be invariably literally interpreted. It applies especially and mainly to those cases where there is something peculiar about the eruption, and it does not mean that, when a patient has typical patches of psoriasis on the legs and arms, those on the buttocks must also be inspected. But when there is anything about the eruption which strikes the observer as unusual, something which he is not familiar with, or something which causes him to suspect some definite disease, then he must insist on seeing region after region until his suspicions are either confirmed or dissipated. This is particularly the case in suspected tertiary syphilis, where the discovery of old scars, long forgotten by the patient, is of the greatest value in diagnosis.

In searching for evidence of this sort the word of the

patient must not be depended on, and a statement such as "there are no spots on my back" really carries no weight at all. It has been jocularly said that in Vienna any statement made by a patient is regarded as probably untrue, and the joke contains a spice of truth which gives it point. Information obtained from the patient, if it is to be of any value, must be most carefully elicited.

There are two ways along which error lies. In one the patient intentionally or unintentionally misleads the observer by his replies, in the other the observer unintentionally misleads the patient by a series of leading questions. The poor old woman up from the country thinks it more polite to give the affirmative answer which the "Professor" so evidently expects. The mistake is so common that it may be well to illustrate it. Take a case of suspected Scabies. The proper questions to ask are: *Does the eruption itch? What time of day is the itching worst?* For contrast, the improper questions: *The eruption is very itchy, isn't it? Does it get worse when you take off your clothes at night?* The former question will really elicit information, the latter, in the class of patient referred to, might just as well be left unasked.

The first and the most important inquiry where there is any difficulty in the diagnosis is: Has any treatment been applied, and if so, what is the treatment and how long has it been carried out? Both well-treated and ill-treated cases may be altered out of all semblance of themselves. Other important questions are whether the present is the first attack, and how long it has lasted. The questions which deal with matters of fact are the ones from which real information can be got; the description, even by the most intelligent, of the manner of commencement of their diseases, is in very many instances misleading or valueless. All questions should be simply put; thus, on inquiry into a suspected case of urticaria, the lesions should be referred to as "like nettle stings," and not as "white wheals."

When an eruption has a peculiar irregular look, especially if it occurs in a young woman, the possibility of its being self-produced should always be considered.

The diagnosis of syphilitic eruptions is probably the greatest

difficulty of the inexperienced. Syphilis may imitate almost any disease of the skin, and it is difficult to say whether the more common mistake is to diagnose it when absent, or to ignore it when present. And yet it may be said almost definitely that if an eruption is syphilitic, some other evidence of the disease will be detected on careful examination. If the disease is recent, there is ulceration of the throat and enlargement of the glands; should it be one of the later eruptions, there will be found somewhere a tell-tale scar.

A very important matter is the diagnosis of the infectious diseases from what may be called "skin diseases proper." Thus erysipelas is not infrequently confused with acute eczema of the face; modified small-pox with acne; and measles with the antipyrine rash. In such cases the thermometer is an almost infallible guide. Of course, coincidences may occur and the temperature be raised accidentally, but it may be taken as a practical rule that when the thermometer registers high the more serious disease is present.

TREATMENT

It is no longer necessary to discuss the question whether diseases of the skin should be treated at all. Hebra's scathing satire on those who, unable to cure the disease, took refuge behind the theory that harm might result from interference, has had its effect, and has driven this absurd doctrine from the profession. Even the laity seems wiser, and it is quite uncommon nowadays to hear the once familiar fears about an eruption being "driven in," though one still hears now and again gratification expressed at its "coming" or being "driven out."

Urticaria, pemphigus, and purpura may attack both the skin and the mucous membranes, but we know of no means by which they can be driven from the one to the other, although instances where they appear to attack now the one and now the other occur with considerable frequency in France. According to Unna a moist eczema of the head of a child may so mask the early symptoms of tuberculous meningitis that the cure of the eczema appears to be followed by the develop-

ment of the more serious disease. From this, however, we learn, not that we should leave the eczema untreated, but that we should be on the outlook for such complications. It is as absurd to act on the assumption that the skin only is diseased in any given case as it is to assume that every disease of the skin depends on some systemic disturbance.

During the incubation period of the infectious fevers any dermatitis present usually tends to disappear. This is notably the case in children with eczema who are sickening with measles, and rapid improvement in a case which has previously proved obstinate to treatment, especially if associated with a slight rise of temperature, should suggest this possibility.

Treatment in diseases of the skin resolves itself into internal and external, and the former may be again divided according as the action on the disease is direct or indirect.

I. INTERNAL TREATMENT

The treatment of the diseases of other organs on which skin affections sometimes depend will not be considered here. The treatment of dyspepsia, constipation, diabetes, or anæmia is exactly the same whether a patient has a disease of the skin or not, and if any of these are present their cure will increase the resisting power of the patient, and hasten the recovery from the skin disease.

There are, however, a number of internal remedies which are administered with the object of *directly* influencing the disease of the skin. Of these the most important is—

Arsenic.—Like mercury, arsenic has had its ups and downs. The former, at first used with much success, was later so abused that it was largely abandoned in disgust, and even yet some eminent authorities are in the habit of treating syphilis without its aid. Used with discrimination it is now recognised as an invaluable remedy, and one can only envy the therapeutic resources of those who can afford to dispense with its assistance.

Arsenic has not reached the same haven of security. Used at first no doubt in moderation, its administration became more and more wholesale, until in the middle of last century each

and every disease of the skin was supposed to be amenable to its influence. Valuable in many diseases, it is positively injurious in others, and its reckless abuse has brought about the inevitable reaction.

It cannot be too definitely laid down that arsenic is not a universal remedy for skin diseases; it should be used in those diseases where it is known to be of value, and in them only. It may be said generally that arsenic is useful in those bullous diseases which are believed to be neurotic in their origin (pemphigus, hydroa) and in some dry conditions, and injurious in the vesicular catarrhs of the skin (eczema), and in those associated with hyperkeratosis (acne).

Arsenic is almost invariably administered in this country by the mouth. Subcutaneous injection may be more efficacious, but it is not a method which appeals to the British public. Fowler's solution is the usual form in which it is prescribed. If an acid solution is necessary the liq. arsenici hydrochlor. is substituted; or arsenious acid may be given in pills. The rules for its administration may be briefly stated: (1) The case must be a suitable one; (2) the patient's tongue must indicate that his gastric and intestinal functions are in good order; (3) it must always be given after or during meals (always freely diluted if in liquid form); (4) it should be given in gradually increasing doses until either (*a*) the disease shows signs of yielding, when the dose need not be further increased; or (*b*) the well-known symptoms of arsenical poisoning (coated tongue, abdominal pain, or conjunctival irritation) develop, when it should be discontinued for a time.

Various organic compounds of arsenic (cacodylates, arrhenal, etc.) have recently been introduced, and it is claimed for them that they have all the good and none of the evil effects of the arsenic, of which they contain such enormous amounts. According to Fraser, the combination is so stable that there is absolutely no therapeutic effect. My own experience is that, provided sufficient amounts are administered, it is possible to produce all the effects of arsenic, particularly that which gives the garlic odour to the breath, and that the new preparations have no advantage over the old. And a recent experience where complete blindness followed the administration of one of

the most popular compounds has determined me to leave them severely alone.

Sir Jonathan Hutchinson has dealt a further blow to the haphazard administration of arsenic by his contention that its prolonged use may so stimulate epithelial growth as to lead to the development of carcinoma. While it cannot be said that his views have met with general acceptance, there are sufficient cases on record to suggest that there is more than coincidence in the sequence of events.

Antimony is recommended by some authorities in those cases where there is heat and tension of the skin, provided the general condition of the patient does not negative its use. Jamieson gives the wine \mathfrak{A} vij to xv two or three times a day, and Morris gives \mathfrak{A} x to xij, repeated in an hour, and again if necessary two hours later. The interval is increased and the dose diminished until \mathfrak{A} vj, thrice daily, are given so long as the acute symptoms last. Antimony is also found useful in some cases of lichen planus.

Mercury.—In addition to its action on specific disease, mercury often has an action, almost specific, on lichen planus. While most commonly administered in this country by the mouth, inunction and subcutaneous injections bring the patient more rapidly under the full influence of the remedy, and should be preferred where time is of importance. In localised syphilitic lesions one often applies the drug in the form of plaster to the seat of the disease. There has recently been introduced a method of administering mercury which promises to be of great value. The inunction method has always been supposed to depend on the penetration of minute particles of metallic mercury into the glands of the skin, from which it was slowly absorbed into the blood, and the fact was overlooked that the heat of the patient's body was slowly volatilising the mercury and surrounding him with a vapour which he constantly inhaled. Experiments on this line (Welanders, Blaschko, and others) have shown that many of the effects of the inunction cure can be attained by the patient wearing next his person some fabric impregnated with metallic mercury, which the heat of the body gradually volatilises. The patient constantly inhales this vapour, and the effects of the mercury.

are very soon evident. Welander uses mercurial ointment in a bag, Blaschko a fabric impregnated with metallic mercury, in the form of a chest protector, which is described as the "Mercolint Bib." This, worn day and night, remains efficacious for four or five weeks, and I can speak highly of the success of the method, while patients are loud in their praise of its convenience. This effect must be kept in mind when one is using even very weak ointments of mercurial salts, especially in cases where there is any elevation of temperature. In extensive pustular eruptions ointments containing varying amounts of ammoniated mercury are often used with great advantage, provided the temperature is normal. If it is elevated, even by a degree, poisonous symptoms are very readily produced, and death may result before the source of the poisoning is recognised.

Sulphur.—The former great reputation of this drug has grown dim, and as internally administered it has only a limited use. Crocker recommended it in *hyperidrosis*, and it is occasionally useful in erythema multiforme when other methods have failed. The sulphide of calcium, gr. $\frac{1}{4}$ t.d.s., is sometimes brilliantly successful in the treatment of furuncle and indurated acne, while Duhring recommends the hyposulphite of sodium (grs. v to x t.d.s.) in urticaria and furunculosis.

Ichthyol possesses powers far beyond the sulphur which it contains. In urticaria it is probably our most dependable remedy, and in any case where the vessel-nerve relations are disordered it may be hopefully given. It should be administered to adults in capsules or palatinoids. Fortunately, children do not usually object to its nauseous taste, and to them it may be given mixed with glycerine in doses of three or four drops.

Salicylic Acid in its various combinations (sodii salicylas, aspirin, salophen, salicin, and salol) is a drug of proven value in all the erythemata; indeed, for erythema nodosum it is virtually a specific. Many cases of erythema multiforme respond to it readily, but on others it has no effect. Following Crocker's advice, I have given it a fairly extensive trial in psoriasis, and while it has sometimes seemed of some value, I have not found it nearly so useful as he did. Aspirin has been especially useful

in my hands, and has a more agreeable taste than some of the other preparations.

Quinine is often efficacious in those cases of erythema which do not respond to salicylates; it is useful in urticaria, especially if any malarial taint is present, and, like Duhring, I have found it do good in lichen planus, though we administer it from different motives. Payne recommends it in lupus erythematosus, and it is at least a useful tonic in many cases of widespread hyperæmic dermatitis, and as an alternative to arsenic in pemphigus.

Iodide of Potassium has undoubtedly some influence on inflamed psoriasis when administered in sufficient quantity; it is useful in actinomycosis and in blastomycosis; but its chief value lies in its thorough action on the products of syphilis.

Ergot is used by some as a remedy in purpura, and in many hyperæmic conditions such as rosacea, in the usually vain hope of contracting the dilated vessels.

Iron.—So many skin diseases occur in anæmic patients, that iron has a large share in internal treatment. The anæmic skin is especially liable to be attacked by micro-organisms, and its powers of resistance are so weakened that external remedies alone, however suitable, are often long in bringing about a cure. It must, however, be emphasised that it is in this way, and in this way alone, that iron acts, and suitable external treatment must always accompany it. I usually administer it in the form of bi-palatinoids of ferrous carbonate.

Pilocarpine, in the form of repeated injections, sometimes proves of value in greatly infiltrated cases of chronic dermatitis which fail to respond to less heroic remedies.

Alkalies are undoubtedly useful in many conditions, but they have no direct action on the skin, and the indications for their use are found in the disorders of other organs of the body.

Diuretics.—The acetate and citrate of potash or other diuretic given with large amounts of water are useful in cases of erythema, etc., where there is reason to believe in the existence of auto-intoxication. They act presumably by hastening elimination.

Purgatives, preferably saline waters, should be given when required, but the hope of purging away skin diseases is

fallacious; the apparent improvement which occurs while the patient is reduced by the purging disappears when he regains his condition. This, of course, does not apply to the use of purgatives in cases of urticaria due to the ingestion of some poison, where a brisk cathartic is often the only treatment required. If such drugs are required, say in a case of eczema with constipation, there is probably nothing more satisfactory than the old-fashioned Epsom salts, made up in some way to suit the more fastidious taste of the present generation.

Opothepy.—That the skin is influenced by more than one of the animal extracts is undoubted, and for a time thyroid and other extracts were very largely used and equally largely abused. The most remarkable results were achieved in the thyroid treatment of psoriasis. Having observed the remarkable desquamation following on its use in cases of myxœdema, it occurred to Dr. Byrom Bramwell that a trial might be made in psoriasis. Accordingly a patient of mine was admitted to his ward, and treated with brilliant success. It is undoubtedly the case that nearly every case of psoriasis, if put to bed and given enough thyroid substance, can, temporarily, be cured. Under suitable circumstances, there are few objections to the treatment; but most cases of psoriasis are unwilling to submit to much restraint, and the treatment of ambulant cases with large doses of thyroid is not to be commended. I have seen cases reduced to a serious condition of debility, and in one case a fatal termination ensued. Still, after all, this is merely the history of any new and useful remedy. Reckless abuse is followed by a reaction, and the pendulum swings perhaps too far on the recoil. There are cases of psoriasis which do well on small doses of thyroid; and especially combined with arsenic, it is often a useful addition to other treatment. Indeed, I never now prescribe it except in this combination. In lupus, small doses of thyroid help to diminish the hyperæmia and the catarrhal complications which so often aggravate that disease, and in other forms of hyperæmic dermatitis it sometimes does good. In ichthyosis it is really useful, and it has been administered with favourable results in scleroderma. I would sum up my views on thyroid by expressing the opinion that it is the advocacy of the drug as *the* means of treatment,

to the detriment or derogation of all other remedies, which has to some extent prevented it from attaining the place which its merits deserve.

Supra-renal extract has been extensively used in Addison's disease, and in vitiligo or leucoderma, but without much benefit. In the latter disease I have several times given it a very thorough trial, but I cannot say that I have seen any improvement result from its use; though one patient wrote me from India that since taking it her disease had apparently ceased to spread. It has been suggested as a remedy, both internal and external, for rosacea, but in my experience other more dependable remedies are to be preferred in this disease.

Vaccine Therapy.—I am not among those who believe that the medicine of the future will consist entirely in vaccination. But I think Wright has rendered a great service to Dermatology, in common with other branches of medicine, by drawing our attention to its uses: the practical men will find out its limitations.

It is now, fortunately, generally admitted that it is not necessary to make the vaccines from each individual patient; but it remains as necessary as ever to prepare the vaccine from the species of organism which is the cause of the disease.

II. EXTERNAL TREATMENT

Since in the vast majority of skin diseases the cause is seated in the skin itself, the external application of some suitable drug is clearly the rational method of treatment, while even where the cause lies deeper, external applications are often of value in moderating the symptoms of the disease.

It would occupy too much space to describe in detail the therapeutic action of the many and varied drugs which are of proven efficacy, while to do the same for every drug which is occasionally used would require a volume. Tar, carbolic acid, tumenol, nicotine, cocaine, hydrocyanic acid, etc., have each some powers of relieving itching, and are spoken of as anti-pruritics; as astringents we make use of many of the salts of lead, silver, zinc, and bismuth, as well as tannic acid and alum;

caustics, such as caustic potash, arsenious acid, chromic acid, carbolic acid, nitric acid, the chloride of antimony, and the acid nitrate of mercury, are in common use; to destroy animal parasites, we make use of paraffin oil, the oil of sassafras, xylol, stavesacre, styrax, the balsam of Peru, etc.; while in the endeavour to destroy vegetable parasites and bacteria, almost every known antiseptic has been employed.

Special reference requires to be made to the class of remedies variously spoken of as reducing agents, kerato-plastic, or keratolytic remedies. Certain drugs when applied in suitable media to the inflamed skin have the property of promoting healthier cornification, of bringing back to the normal the chemical changes which the cells pass through. The more important members of this group are tar, salicylic acid, resorcin, sulphur, ichthyol, pyrogallol, and chrysarobin.

Applied in concentrated form, they produce a destruction, a lysis of the keratin; diluted, they help to build up. Some of them, notably pyrogallol, take up oxygen in the process; and in the belief that this was the explanation of their action the name of reducing agents was applied.

Oxidised pyrogallol is, however, by no means inactive, while oxidised chrysarobin is comparatively inert, so it is probably incorrect to attribute the good effects to their reducing properties.

The greater one's experience the more is it borne in on one that in the treatment of the diseases of the skin more depends on the method of applying the drug than on the particular drug selected, and no time is wasted which is spent on impressing on the patient the importance of the method of application. A word, too, may here be spoken in season on the importance of considering the question of expense. The treatment of a skin disease is always expensive, and in many cases unsatisfactory results are due to the too sparing use of whatever may be ordered. So that although, say, an ointment may be, in the prescriber's opinion, the best treatment for a particular case, he may get better results in the less well off or too frugal patient from the prescription of the cheaper lotion or varnish.

There is great scope for the exercise of common sense in the practice of Dermatology.

Before commencing the treatment of any skin disease it is first of all necessary to remove from the surface any products of disease (crusts, scales, etc.) which lie on the surface, and prevent any application from reaching the actual seat of the disease. There are various methods of doing this. The part may be covered with strips of lint soaked in olive oil. On the scalp, if not contra-indicated, common paraffin oil, in virtue of its searching and penetrating powers, is of great value in removing accumulated scales and excretions. Hebra's ointment (lead plaster and vaseline in equal parts), spread thickly on cloth, is very efficacious in removing crusts, and at the same time its action on exposed areas of inflammation is favourable.

One of the best methods is the prolonged application of the **Boracic Starch Poultice**, which is made as follows:—One teaspoonful of boric acid is mixed with four tablespoonfuls of cold-water starch,¹ and enough cold water to give the mixture the consistency of cream; a pint of boiling water is then boldly added, the mixture being constantly stirred until the starch bursts and a translucent jelly results. When this is quite cold the amount required is spread on cloth in a layer about half an inch thick. This is covered with muslin and applied to the part. The poultice should be renewed about four times a day, and much trouble will be saved by making enough of the starch jelly to last for two or three days. In addition to its power of removing scales and crusts, this poultice is a valuable soothing application in inflammatory cases. I strongly advise students to expend sixpence on wheaten starch and practise making poultices. They will feel the benefit when in practice their patients who have failed to make them satisfactorily ask for a demonstration.

Baths.—These are used with various ends in view. Where the skin is greatly inflamed a *starch bath* is very soothing. From a half to two pounds of starch is crushed and made into a cream with cold water, and *warm* water from the tap should

¹ Pure wheaten starch makes the best poultices; even experts cannot make satisfactory poultices out of Colman's; Orlando Jones', Colman's rice starch, or Glenfield starch may serve if the pure wheaten article cannot be procured.

be caused to run into and overflow the vessel in which the cream has been made. The water must not be too hot, or the starch will "burst." Bran (lbs. 2 to 5) and gelatine (lbs. 1 to 3) may also be used to form a soothing bath.

Alkaline Baths.—The drying after-effect of the alkali on the skin should not be lost sight of in the temporary sense of well-being that a patient with an inflamed skin feels when in these baths. They are more suited for cases where there is great thickening of the skin, or, as in psoriasis, for the removal of the scales, and are made by the addition to an ordinary warm bath (25 to 30 gallons) of sodii carb., \bar{z} ij to x; potass. carb., \bar{z} ij to v; borax, \bar{z} ij to v, or soft soap, lb. ss to j.

Sulphur Baths are useful in scabies, and also in other conditions in which sulphur is indicated. They are usually made by adding two to four ounces of potass. sulphid. to the bath. Startin recommended sulph. præcip., \bar{z} ij; sodii hypsulph., \bar{z} j; ac. sulphuric. dil. (\bar{z} ss). Sig.: Mix in a pint of water and add to the bath. The deleterious effect of sulphur on iron baths must not be forgotten, and is a great hindrance to its use. The preparation sold as *Sulphaqua*, which develops sulphur when mixed with water, is largely free from this disadvantage.

Tar Baths.—While tar may be added to the bath, the usual practice is to *tar the patient* before he enters it. The bath should be prolonged, care being of course taken to maintain the temperature of the water.

Patients or their friends often ask when frequent warm baths are suggested, whether they are not weakening. They are—when they are too hot. If regular bathing is to form part of the treatment a bath thermometer must be used, and the temperature of the bath should not exceed 100°. In my wards 99° is the standing order. What people call a nice warm bath is often 103° or 104°.

Sea Bathing.—If any skin disease is associated with much hyperæmia, and especially if moisture is present, sea bathing is likely to irritate and aggravate it. On the other hand, its general tonic effect is sometimes shown beneficially on the skin. It should be discontinued if any irritation follows. Hot sea-water baths are sometimes found very useful in psoriasis.

Powders.—Simple powder when applied freely to the skin protects it from external irritation, soaks up the evaporating or excreting fluid by capillary attraction, and therefore produces a sensation of coolness; the vessels are contracted, so that a certain degree of anæmia results. Its beneficial effects on erythematous and œdematous skin are thus accounted for. Any further effects are due to the chemical character of the powder, and not to its mechanical action. The more commonly used powders are the oxide, carbonate, and oleate of zinc, starch, lycopodium, rice, talc, boric acid, carbonate of magnesia, kaolin, terra silicea. Violet powder is composed of starch to which a certain amount of powdered orris root is added.

Carbonate of magnesia has the greatest capacity for water, taking up five and a half times its own weight (Gründler). As a simple dusting powder it is excellent, but its bulk is against its use in pastes. Kieselguhr¹ takes up three and a half, and oxide of zinc one and one-fifth times its weight of water, and being less bulky these are more commonly used in pastes.

Powders are simply dredged on to the affected area. If a more prolonged action is desired they may be quilted into muslin bags and fixed with a bandage, or they may be applied, *e.g.* on the legs, by wearing two pairs of stockings or drawers, the inner pair being of some open texture, and the space between the two liberally dredged with powder.

Lotions.—These are mainly used either as applications to subdue itching and irritation, or from motives of economy, when the wide spread of the eruption in any given case makes treatment by ointments very expensive.

Sometimes they are very simple, *e.g.* ac. carbolic, 5j; glycerine, 3ij; water, 5viii. More frequently they contain varying proportions of powders, with glycerine or mucilage to aid in suspension. In many respects glycerine is not the most desirable addition: it irritates some skins, and in others its hygroscopic qualities actually produce exudation. Mucilage of tragacanth may be used when the reaction of the fluid is acid; if it is alkaline the tragacanth is precipitated. When

¹ Terra silicea.

the fluid part of a lotion evaporates, the powder is left as a protectant to the inflamed skin.

Lotions should be well shaken,¹ and the amount to be used poured into a saucer, and then dabbed on with a pledget of wool. The thicker lotions are applied with a brush. Any lotion left over should be thrown away and not poured back into the bottle.

Varnishes.—These are fluid or semi-solid preparations which, when spread on the skin, evaporate and leave a thin adherent covering. The simplest of all is Pick's *Linimentum exsiccans*, which is best composed of tragacanth, 5; glycerine, 5; and water, 100 parts. The water and glycerine must be gradually added while the tragacanth is rubbed in a mortar. They form a translucent jelly, which leaves on the skin to which it is applied a thin, almost invisible film, which by its contraction produces a pleasant cooling sensation on inflamed areas. To it various drugs may be added, provided they have not an alkaline reaction.

Gelanthum is composed of tragacanth, gelatine, and glycerine. As the preparation is somewhat complicated, I quote from the *British Journal of Dermatology*, February 1897, a formula by Mr. Skinner, M.P.S.:—

R	Tragacanth	.	.	.	.	.	5ijss
	Gelatine	.	.	.	.	.	3ij
	Glycerine	.	.	.	.	.	3vj
	Thymol	.	.	.	.	.	gr. $\frac{1}{4}$
	Aq. Destill.	.	.	.	.	.	q. s.

Place the tragacanth and the gelatine, each in a covered jar with 10 ounces of water, in a steam bath for twenty-four hours. Then press through muslin, mix, add the glycerine, place in the bath again for an hour, and make up to 12 ounces with water in which the thymol has been dissolved. The object of these complicated proceedings is to deprive the gelatine of the greater part of its power of gelatinising.

¹ This is particularly important in the case of lotions of carbolic acid. The carbolic acid sinks to the bottom of the bottle, and the lotion as it grows less by use grows stronger and stronger in carbolic.

Any powders which are added must be rubbed up with water to a thick cream. Fats may be added up to 10 per cent., glycerine up to 20 per cent. Almost any drug may be added provided its action be not alkaline.

These preparations have many advantages. They are clean, cheap, and are often well borne by patients whose skins resent the application of any form of grease.

Many substances—tar, ichthyol, guaiacol, benzoïn, etc., may be applied dissolved in spirit, which, when it evaporates, leaves on the skin a thin coating of the medicament. Tar acetone is a favourite remedy with Allan Jamieson. A convenient formula is picis carbonis, $\bar{3}i$; benzol, $\bar{3}ii$; and acetone, $\bar{3}i$. Other active ingredients, such as oxidised pyrogallol, may take the place of or be combined with the tar.

Collodion.—Both the plain and the flexile may be applied simply for their contracting power, or they may be used as vehicles for various drugs (*e.g.* salicylic acid). Collodion permits the natural evaporation to go on unchecked, and thus does not “heat” the part. Acetone may be used as the solvent of the gun-cotton, in place of ether.

Traumaticin.—This is a solution of gutta-percha in chloroform ($\bar{3}j$ to $\bar{3}j$). It was introduced by Auspitz, and is perhaps most used as a cleanly vehicle for the application of chrysarobin in psoriasis. Though less uncleanly and much less efficient than ointment, it does not prevent chrysarobin staining of the clothes.

Celloidin is very useful in the minor surgery of dermatology, but is not used as a vehicle for drugs. A solution in equal parts of ether and alcohol is more manageable than a pure ethereal solution.

Glyco-Gelatins.—Glycerine jellies or limes.—The word “lime” (bird-lime) has almost dropped from the English language, and the term “glyco-gelatin,” suggested by Dühring, seems the best substitute for the German *Lcm*.

Gelatine was first introduced into dermatological practice by Pick, but Unna’s modification is now almost exclusively used. It is a most valuable application, and as its success depends on its careful preparation I give it in detail:—

R	Zinci Oxidi	. .	30·0	or R	Zinci Oxidi	} -āā pts. æq.
	Gelatini	. .	30·0		Gelatini	
	Glycerini	. .	50·0		Glycerini	
	Aquæ	. .	90·0		Aquæ	
	(UNNA.)					

The gelatine is laid in a dish and the water poured over it. It is frequently turned until every part has taken up water and become perfectly supple. It is then melted in a water bath, and the glycerine, previously mixed with the zinc oxide and any other desired medicament, is stirred in. When required for use it is melted in an improvised glue-pot, and when sufficiently cool is painted on the affected surface. It rapidly sets, and when nearly dry may be dabbed with a pledget of absorbent wool, some of the fibres of which adhere and render the film more durable. Ichthyol and sulphur are the drugs usually added to it. Most others, *e.g.* tar, are best painted on the part and then covered with the gelatine. There is probably no preparation to equal this for use in the dermatitis which accompanies varicose veins of the leg. The gelatine permits natural evaporation to go on freely, and consequently does not "heat" the part; it exercises a most useful compression, allays itching, and keeps off injurious external influences. In winter the proportion of gelatine may be diminished, and in very warm weather increased. Glyco-gelatin is also an excellent means of fixing a dressing on any part of the surface where it is difficult to apply a bandage.

Ointments.—Too often local treatment consists in the mere perfunctory application of zinc ointment. Recent investigations have disclosed in the healthy skin an unsuspected amount of fat which is absent in certain diseases, demonstrating once more that tradition usually rests on some basis of fact, and that in applying ointment to many diseased skins we only supply to them what they lack. There are, however, many diseases where the application of grease is of doubtful value, and some where it is distinctly injurious.

The simple application of fat to the skin is by no means without effect. The fat is greedily taken up by the horny cells, causing them to swell up, damming back the natural evaporation, and causing fluid to accumulate even as far back

as the papillary body, and thus on sensitive skins the application of grease often produces a most undesirable hyperæmia and œdema.

Unna gives four indications for the use of fats: (1) Where the cutaneous fat is deficient (ichthyosis, dry eczema, etc.); (2) where the epidermis is deficient in protective power (trade dermatitis, *e.g.* in washerwomen and masons, weeping eczema); (3) as vehicles for various medicaments; (4) as directly healing agents.

The fats used are very numerous, but only those commonly employed need be considered.

Lard and tallow have been used from time immemorial. They are always mixed with a certain proportion of benzoin to prevent rancidity. Vaseline should always be prescribed as such. Proprietary preparation though it be, it is much superior to any of its substitutes. The same does not hold of lanoline; *adeps lanæ hydros.* is at least its equal. Anhydrous lanoline irritates many skins by abstracting water, and should only be prescribed when this is desired. Lanoline alone forms rather a tough basis, and when used as an ointment should be mixed with an equal quantity of vaseline, or almond or olive oil (5ij to 3j). Cocoa butter, which melts readily at the temperature of the skin, is a favourite ingredient in pomades, and wax and cetaceum are used mainly in the preparation of cold creams.

Ointments vary in their effect according to their composition, irrespective of any drug which may be mixed with them, and may be divided into three groups: (1) Cold creams or refrigerating ointments; (2) Pastes—stiff ointments; (3) Ointments proper.

(1) *Cold Creams.*—Evaporating or refrigerant ointments.—These act, according to Unna, in virtue of the water which they contain. To put the matter briefly, they take up fluid on one side and give it off freely on the other. From this constant evaporation arises the cooling sensation with which they are associated. In order to obtain the full benefit of this they must be smeared on in a thick layer, not rubbed in like ointments. The ung. aquæ rosæ of the British Pharmacopœia is a cold cream; a common formula is ceræ, cetacei, āā ʒss; aq.

rosæ, ol. amygdalæ, āā ʒss. Sack has drawn attention to the great capacity of adeps lanæ for water, and excellent creams may be made as follows:—Adipis lanæ anhydric., ʒj; vaselini vel adipis benz., ʒij; et aq. calcis, aq. rosæ vel liq. plumbi subacet., ʒijj to ʒvi.

(2) *Pastes*.—These are combinations of fat and powder, the latter being in far greater amount than in any ointment, sometimes as much as 50 per cent. Hence they combine the effects of an ointment and a powder. They have not the same penetrating effect as ointments, but in virtue of the fat in them they do penetrate, and take with them any incorporated drugs, while the powder they contain enables them to soak up the excretions instead of damming them back as mere ointments tend to do. The most familiar of all is Lassar's paste: Zinci oxid., pulv. amyl., lanolini, vaselini, āā ʒij. Other commonly used powders are kaolin, magnes. carb., and chalk; while Unna strongly recommends, on account of its great absorbent powers, the powder known in Germany as "kieselguhr," a diatomaceous sand which is prescribed as "terra silicea." This possesses such eminent capillary attractive power that 10 per cent. added to an ointment suffices to make a paste.

Pastes are rubbed on the skin so as to form a thin adherent layer—a dry, protective covering for the skin. They may be covered with powder, waxed paper, or with cotton wool and a bandage. The following are two of Unna's formulæ:—

R	Terræ Silicæ . . .	grs. xx	R	Terræ Silicæ . . .	ʒss
	Zinci Oxidi . . .	ʒij		Sulph. Præcip. . .	ʒij
	Adipis Benz. . .	ad ʒj		Zinci Oxidi . . .	ʒjss
				Adipis Benz. . .	ʒj

I agree with Leistikow that the presence of hair on the part is no contra-indication to the use of pastes. If they accumulate they can easily be removed by the free application of oil.

Any drug may be incorporated with pastes, the amount of powder being diminished if the added constituent is bulky and dry.

(3) *Ointments*.—In using pure ointments, *i.e.* small proportions of active drugs mixed with one or other of the fats, their

method of action should be borne in mind, and they should only be prescribed when such action is desired.

Pure grease applied to the surface causes the horny cells to swell up, and consequently hinders evaporation. Combined with any drug, it takes that drug along with it as it penetrates into the horny cells; hence ointments are *the* vehicles to select when we wish our drugs to penetrate. Having conveyed the drug in, their next duty is to give it up readily, and in this all bases are not alike. Vaseline is said to owe much of its virtue to the readiness with which it parts with incorporated drugs. Lanoline is credited with powers of deeper penetration than other fats, but this quality is not so all-important as is often suggested. The penetrating power of fat is increased by the addition of water, cold cream, or of soap.

Ointments may be rubbed in, spread on strips of cloth and bound on; or, if great activity of action be desired, the part may be covered over after their application with some impervious material. If this last plan is adopted, the effect must be carefully watched. Salicylic ointments in particular act with great vigour when applied in this way.

Salve muslins are ointments composed of benzoated mutton tallow and a little wax, variously medicated. They are spread either on one or both sides of muslin, and possess advantages on account of their cleanliness and the simplicity of their application, all that is required being to cut a piece of the required size and apply it to the part. Although they cost more money, they are undoubtedly more efficacious than ointments of similar composition spread upon cloth, and are therefore often cheaper in the end.

The *plaster muslins* are more penetrating in their action, owing to the impermeable basis of gutta-percha on which the medicament is spread. Like the salve muslins, they can be applied to any part. They adhere well, and they far surpass in activity the same drugs applied in any other fashion. They may be fixed on to any part of the body by coatings of zinc glyco-gelatin.

The *salve stick* or *pencil* is composed of some firm basis in which the drug is incorporated, and is applied by simply rubbing the affected part, the heat of the skin melting some

of the stick. Unna's basis is lanoline 2 parts, and wax 1 part. If this is found too stiff, another useful formula is cocoa butter 2, wax 1, lanoline $\frac{1}{2}$. It is a very handy method of applying any drug to circumscribed patches of eczema, *e.g.* on the hands, while the chrysarobin stick is a useful means of applying that drug in ringworm and alopecia areata.

Soaps.—When soap is mixed with water, it breaks up and sets free a certain amount of alkali, which combines with any greasy matter on the skin, saponifies and removes it. The more alkaline the soap, the more energetic is this action, the alkali attacking the horny cells, softening them, and, if concentrated, dissolving them.

The most active soap is *sapo mollis*, made from potash and olive oil. This contains a considerable amount of free alkali, and is chiefly useful in removing thickenings of the epidermis. It is most commonly prescribed in the form of Hebra's *Spiritus saponatus kalinus*, consisting of 2 parts of soap to 1 part of spirit of wine. Perfumes may be added as desired, or the formula may be modified:—

R	Saponia Mollis	3iv
	Spt. Coloniensis }	
	Spt. Vini Rect. }	āā 3j

The indications for its use will be referred to later. When hard soaps are required, soda or a mixture of soda and potash is used. Unna's basis soap is made from 2 parts of soda lye and 1 part of potash lye. Over-fatty soaps are made by the addition to the neutral soaps of an excess of fat, *e.g.* olive oil, 4 per cent. This fat is unsaponified, hence the term over-fatty. For ordinary use neutral soaps are best. Alkaline ones may prove too thorough in their action, and over-fatty ones require warm water if cleansing is to be at all satisfactory.

A great deal, perhaps too much, is made of the alkali in soap to the neglect of the other constituents. Probably a good many of the soaps which cause irritation owe that quality as much to unsuitable rancid fats used in their preparation, as to the alkali which they necessarily contain. Advertisements that a soap contains no free alkali, or even that it contains "no alkali at all," are no guarantee that it may not irritate. I

am satisfied that idiosyncrasy plays a large part in the irritation of soap. Soaps that irritate one person's hands have no evil effects on those of hundreds of others, and *vice versa*.

Theoretically, soaps should be more useful as vehicles for drugs than they are. Their power of softening the epidermic cells undoubtedly opens those cells more to treatment, and medicated soaps are largely used. They do not, however, in practice prove so satisfactory as they promise in theory. They do not carry the drug with them so well as ointments do, and the dosage is uncertain both in amount and concentration. Exceedingly useful in one case, they may prove just as disappointing in their effects in another; and they have their chief sphere in cases where the action of soap as soap is desired. In acne, where one desires the soap effect, they are most useful, and they are often preferred by patients who are for various reasons—a common one laziness—unable to carry out other forms of treatment.

Of the medicated soaps the best known are Eichhoff's, which are made alkaline, neutral, or over-fatty, either in cake or powder. His formulæ are made up in this country by Midgley of Manchester, and other soap manufacturers. The powdered soaps are especially useful for application to the back, the powder being dusted on to a wet towel.

The softening power of soap may be taken advantage of by adding it to ointments, as is frequently done in the treatment of scabies.

Soaps may be applied in various ways—(1) Simple washing; (2) rubbing in the lather and allowing it to dry on; (3) rubbing in thoroughly until dry; (4) covering the lather with some impervious material.

Oils.—Oils may be used to soften the thicker ointment bases. Olive oil is used to soften and remove crusts, especially on the scalp. Linseed oil, along with an equal part of lime water, forms the well-known Carron oil which, though banned by the surgeons, is greatly valued by the dermatologists. Paraffin oil and oil of sassafras are used to destroy pediculi; and cod-liver oil as an external application in lichen scrofulosorum. Almond oil is used in cold creams, and serves to diminish the toughness of lanoline, while castor-oil is a usual

component of hair-washes, on account of its solubility in alcohol.

Valsol is the name given to a specially prepared fluid vaseline. It forms one of the best media for applying salicylic acid to the scalp, while iodine valsol, when rubbed into the skin, produces some of the effects of the internal administration of iodides.

X-RAYS AND PHOTOTHERAPY

In the X-rays dermatology has acquired a weapon of remarkable value. Like all valuable remedies, it has great powers for evil, and must be most cautiously used. It is not only the beginner who must be careful; in the use of X-rays familiarity does not breed contempt.

In the early days, operators wrote with great confidence as to the best means of producing the rays, and generally ruled out all apparatus different from that with which they themselves worked.

It is apparently of little moment how the rays are generated. Some use one apparatus, some another, and like results are produced. The important thing is for the operator to advance cautiously and become familiar with the apparatus he is in the habit of using. The tube is, in my experience, the most important factor. It is generally admitted that soft tubes are more liable to set up dermatitis, and therefore the beginner should invariably work with a hard tube. When he has acquired experience he will probably develop a preference for soft ones, with which more rapid results can be produced.

It is always desirable to commence with a trial exposure, followed by an interval of several days. Events will show the precaution to have been unnecessary in nineteen out of twenty cases, or in even a larger proportion; but, unless some reason to the contrary exists, this plan should always be adopted. Severe dermatitis may follow on one short exposure, and the possibility of this should be explained to the patient, who can then decide whether he will run the risk.

Special precautions must be taken to protect adjacent parts. These may either be covered with lead foil, or a shield of

metal, leaded glass or vulcanite may be interposed between the tube and the patient, so that the rays shall only fall on the part that it is desired to attack. But it is not the patient only who requires to be protected. Many operators have suffered and some have died from the effects of the rays, and operators should always keep the danger in mind and expose their hands as little as possible, indeed not at all, to an active tube. The first sign of trouble is the development of little black horny growths at the mouths of the hair follicles, which, if warning be not taken, develop into malignant warts. The effect of the rays on the reproductive function must also be kept in mind, and those who are working for long periods daily will find it necessary to protect themselves by wearing suitable armour.

Various methods have been designed for measuring the rays. I now place my confidence in Sabouraud's pastilles. If these are used as Sabouraud directs, I believe the chances of injuring the patient are reduced to the minimum. But there is nothing exact about the X-rays, and nothing can take the place of experience. The would-be worker must begin slowly, and be content if he does no harm while he gradually accumulates experience.

The number of tubes on the market is legion. I have tried many, and have come to the belief, which I am glad to see is shared by Sir Malcolm Morris, that the Müller simple "record" tube is on the whole as dependable as any. Those who propose to use the rays should consult one of the very numerous text-books dealing with the subject.

The Finsen method is briefly described under Lupus, and I have thought it unnecessary to discuss High Frequency, Static Electricity, Blue light, etc., here. Those who have the apparatus have other sources of information.

Freezing.—A good many years ago Dethlefsen reported on the beneficial results of the application of the chloride of ethyl spray in cases of lupus. Others tried the treatment, but the results were not so remarkable as to lead to its general adoption. In 1905 Dade demonstrated to the American Dermatological Associates the remarkable effects of liquid air, its possibilities as a caustic were recognised, and it was used

with considerable success in the Vanderbilt Clinic in New York, and elsewhere.

Though cheap compared with radium, liquid air is too expensive for use by individuals or by hospitals not so richly endowed as the Vanderbilt, and it did not come into extensive use. But its introduction directed attention to the merits of freezing, and in carbon dioxide snow was found a means of applying the treatment almost, if not altogether, as useful



FIG. 3.—CO₂ Cylinder in position ready for use.

as liquid air at a cost within reach of the most modest purse. All the apparatus required is a cylinder of carbonic acid gas such as is used everywhere in the manufacture of soda water. Such cylinders cost about £3, but can be hired—the usual method—for a few shillings a year. The cost of filling—in Edinburgh—is six shillings. The rest of the necessary apparatus is a bag of chamois leather and some means of shaping the snow into the required form. An ordinary minim glass serves to make round shapes, and a little ingenuity and a few pence will supply any desired modification. The cylinder should be placed upright with the nozzle downwards. The chamois-leather bag is fitted over the nozzle, the neck is drawn tight, and the gas is allowed to escape violently into the bag. When this is distended, the gas should be shut off, and the bag compressed with the hand; a fresh explosion of gas is allowed, and the process repeated until the bag feels sufficiently filled. The snow is pure white and of a tempera-

ture of 80 degrees below zero C. The operator should now don a pair of gloves to permit of his handling the snow, which may be moulded by pressure from a lead pencil, or, if greater firmness be required, by the use of a hammer, to any required shape. When applied to the skin it freezes the superficial layers into solid ice almost immediately, and the longer the application the deeper does the freezing extend. According to Pusey, ten seconds' application to the adult skin produces marked hyperæmia, which terminates in a dry dermatitis

twenty to thirty seconds results in the formation of a bulla which, when it heals, leaves a scarcely perceptible scar, while applications of a minute or more result in the formation of distinct white scars, always, however, very smooth and pliable. It is important to note that the skin of the child is much more sensitive than that of the adult—according to Pusey as three to one. Pusey also draws attention to the increased sensitiveness of skin which has been at any time previously exposed to X-rays. The results of freezing are much more severe, but, on the other hand, satisfactory results may be attained by very much shorter exposures than usual.

I have had the treatment in use for nearly eighteen months and have found it exceedingly valuable in many conditions. We first used it in lupus erythematosus only, but have gradually extended its use to nævus, carcinoma, rodent ulcer, and it seems to be as useful in milder and more superficial catarrhs of the skin as is radium. Reference, however, will be made to its use in particular diseases.

SECTION II

ANOMALIES OF SENSATION

PRURITUS

(*Prurire—to itch*)

ITCHING is a *symptom* common to many diseases. The term Pruritus should be strictly limited to those cases in which there are no visible lesions other than those produced by scratching.

When a patient presents himself, complaining of itching, the first matter to be determined is whether any parasites are present. In making this investigation the appearance and social position of the patient count for nothing. There is nothing even in a title which guards one from the attacks of even such a vulgar insect as the *Pediculus corporis*.

Many cases of generalised itching are due to the presence of the *Pediculus capitis*. The irritation in the scalp seems to arouse a general tendency to itching, and scratching produces tiny lesions of the skin, almost invisible yet excessively irritable. Scabies, too, often exists unsuspected, for in the better classes the hands being frequently washed are very rarely much affected, and the daily bath prevents the typical appearances of the disease from developing on other parts of the body.

Parasitic causes excluded, we turn to the investigation of the internal organs. The first subject for examination is the urine. Diabetes is one of the most fruitful sources of pruritus. Not only do we have those cases of local irritation, specially frequent in females, where the irritation of the sugar produces local dermatitis and itching, but diabetes often provokes a tendency to itching all over the body, most marked of course

in those typical cases where the skin is dry and harsh. Itching is also a frequent accompaniment of various forms of Bright's disease, and it is often associated with the increase of uric acid. It is sometimes associated with ovarian disease, and has been noted as an early symptom both in intra- and extra-uterine gestation. Jaundice, whatever be its origin, is frequently accompanied by itching; and other hepatic troubles, such as gall-stones, sometimes reflexly arouse it. Occasionally, itching is a troublesome, and sometimes the first symptom of cirrhosis, or even of carcinoma; the liver and its functions should always be carefully examined in unexplained cases of pruritus. If a likely cause is not found, organ after organ should be carefully investigated, and any trifling derangement corrected.

Pruritus hiemalis (wintry) is a variety of the disease apparently dependent on external cold, and usually affecting the extremities. It is most marked in the winter months, and is usually worst at night. It often disappears on the stoppage of the cold bath, and is best combated by remedies such as acetic acid, camphor, etc., which stimulate the circulation of the skin. Warm water and friction are useful aids. In old people there is often considerable itching due to the increasing dryness of the senile skin, which is relieved by the application of grease. If the itching is not relieved by, say, vaseline, one should not at once assume that the case is not suitable for the grease treatment. Lard, lanoline, olive oil, Carron oil, etc., should be tried. Grease discovers idiosyncrasies in the skin just as soap does.

The terms **Pruritus ani** and **vulvæ** are far too readily employed. While symptomatic itching may be local and limited to these regions, it will generally be found, on thorough examination, that the irritation is caused by *some evident disease* (hæmorrhoids, eczema, oxyuris vermicularis, pediculosis pubis, fissure, vaginal or anal catarrh), the cure of which is soon followed by the disappearance of the dermatitis and the itching.

There is another form of pruritus which is not so generally recognised, but cases have occurred in my own experience, and Crocker referred to it in his text-book. This is what may be called *mental pruritus*, where the patient suffers from the delu-

sion that his skin is swarming with insects. This form should not be too readily diagnosed. It is no doubt comforting, when one is unable to discover the cause of any disease, to assume that it exists only in the patient's brain; but it should only be after the most careful search that this conclusion is arrived at.

Remedies.—During the time all these investigations are going on the patient is naturally anxious to have some relief from his symptoms, and the number of remedies which have a repute for relieving itching is very great. Heat is often efficacious. Its use is said to have been discovered by Napoleon, who, in defiance of his physician, used very hot baths to relieve the itching of eczema. Menthol, tumenol, and nicotine are most easily applied in the form of soap, the patient being lathered all over before going to bed. Carbolic acid, $\bar{3}j$, glycerine $\bar{3}ss$, water to $\bar{3}viii$, form a lotion which often gives considerable relief. The following formula is recommended by Bronson:—
 R Ac. carbol., $\bar{3}j$ to ij ; liq. potass., $\bar{3}j$; ol. lini., $\bar{3}j$. The tendency of carbolic acid to sink to the bottom of the bottle must be kept in mind, and the necessity of always shaking the bottle before use impressed on the patient. Tar is another useful remedy; liq. carbonis deterg., $\bar{3}j$ to $\bar{3}ij$ or more to a pint of water, sponged on, is often soothing. A solution of tar in spirit or in acetone, a drachm or more to the ounce, may be applied, and as it evaporates leaves a thin coating on the skin. Acetic and tartaric acids may be freely applied in watery solutions (1 to 30). Vinegar baths (1 to 250) are sometimes useful, while some authorities recommend alkaline baths. The narcotic alkaloids are often useful; they should be dissolved in alcohol or ether, or a mixture of both. Other symptomatic remedial agents are balsam of Peru, benzoin, guaiacol.

It is also possible to moderate excessive itching by the internal administration of various drugs. A hypnotic should only be prescribed when the symptoms are very severe, and with a full sense of the responsibility which is involved. Morphia often aggravates itching, and should almost never be used. The bromides, chloral, and cannabis indica, either separately or combined as in bromidia, may be tried. Phena-

cetine, antipyrine, and similar preparations are occasionally useful. Pilocarpine may be tried when the skin is very dry. Brocq gives carbolic acid, gr. j, in pill thrice daily; and salicylate of soda, gelsemium, nux vomica, ichthyol, belladonna, digitalis, and ergot have all been used, sometimes with benefit. Static electricity and high frequency currents, if available, may have a trial. If the patient is unduly thin, cod-liver oil and other fattening agents are often helpful.

Cases which resist the majority of the recommended remedies are so numerous that it is necessary to give an extended list, but it must never be forgotten that all are merely directed against the symptoms, and that the real treatment of the disease consists in finding out and removing its cause.

ANÆSTHESIA

Anæsthesia of the skin is always a symptom of some definite disease. In leprosy the anæsthesia of the patches distinguishes them at once from any other disease of the skin which they may chance to resemble, though other forms of neuritis may be associated with anæsthesia or hyperæsthesia of the skin. In anomalous cases the possibility of hysteria should be considered.

DERMATALGIA

The pain associated with zoster is neuralgic, and consequently more deeply seated than dermatalgia proper. Pain limited to the skin may be a symptom of some systemic disorder, *e.g.* anæmia, malaria, rheumatism, and gout. The most typical cases occur on the hairy parts of the body, when every movement of the hair sometimes causes excruciating pain. This is probably associated with a hyperæmia of the neck of the follicles, and, according to Unna, is best treated by the internal administration of ichthyol.

SECTION III

ANOMALIES OF SECRETION

THE glands of the skin are the coil or sweat, and the sebaceous glands. Seborrhœa, which, literally translated, indicates an excessive activity of the sebaceous glands, is really a mild inflammatory process, and will be considered among the inflammations. Sabouraud's views on seborrhœa will be referred to under Acne. The only pure anomalies of secretion which are important are those of the sweat glands. These may either be too active or inactive, or their secretion may be modified. The most important of these is excessive secretion.

HYPERIDROSIS

(ὑπέρ-ιδρώς—the sweat)

Excessive sweating may be either local or general. General sweating is less important dermatologically, as it is usually dependent on some systemic disease. Of the localised form there are certain varieties. One of these is apparently nervous in origin, as the hyperidrosis is limited to the area of skin supplied by a particular nerve. This condition is most frequently met with on the face. Then there may be excessive activity of the larger glands in the scalp, and in those regions where the parts are covered by the clothes and heated, the axillæ and groins. The palms and soles also are very commonly affected. Especially on the soles, the condition is frequently associated with dermatitis, probably due to the presence of organisms, which further complicate matters by stimulating the glands to still greater activity. General weakness, anæmia, alcoholism, and hysteria are common

predisposing causes, and flat-foot is a very frequent accompaniment of hyperidrosis of the feet.

The condition known as *bromidrosis* (βρῶμος—a stink) is simply a complication due to the growth of certain organisms in the exuded sweat.

Prognosis should be guarded. Some cases are very obstinate, and almost all require prolonged treatment.

The TREATMENT differs according to the stage at which the disease is found. If the decomposition has given rise to dermatitis, that must be subdued by mild treatment before the disease itself can be attacked. Ordinary soothing ointments and emollient baths should be used. Hebra's ointment (p. 21) spread on strips of cloth is of great value. For the *hyperidrosis* itself, the first indication is to correct any defect of the general health, such as anæmia. Alcohol, if used too freely, should be interdicted. Among the drugs which have the reputation of diminishing the secretion are belladonna, agaricin, ergot, extract of hydrast. canadensis, and lastly, sulphur (ʒj thrice daily), which was strongly advocated by Crocker. As a local application, quinine dissolved in alcohol (1 per cent.) has been recommended.

For hyperidrosis of the axillary and femoral regions, absolute cleanliness and astringent applications are usually prescribed. A decoction of *oak bark*, solutions of *tannin* (5 to 10 per cent.), lotions of *salicylic acid* (2 to 5 per cent.), and drying powders, are recommended by different observers. Leistikow strongly recommends *formalin*, which may be used in the form of soap for a considerable time after recovery. If used ás an ointment, *e.g.*—

R	Formalin	ʒss to ʒj
	Adip. Lanæ	ʒij
	Vaselini	ʒss

Its effects must be carefully watched, for formalin often produces dermatitis.

Leistikow also advises the use of zinc sulphur paste (p. 28) to prevent recurrence. In the not uncommon cases where sweating in the axillary regions interferes with social enjoyment, it is worth knowing that the application of very hot

water on a sponge will usually arrest the excessive secretion for a few hours.

In cases where the disease affects the palms and soles the latter of which is the condition which most frequently comes under notice, Leistikow lays great stress on the importance of recognising whether the case is one of cold or hot sweating. If cold, he advises the use of hot baths, with the addition of vinegar, spirits of camphor, etc. The parts are then carefully dried and washed with formaline soap, the lather of which is allowed to dry on. The principle of this treatment is to induce a hyperæmia which will correct the anæmic condition. The same effect is attained by the application of some such ointment as—

R	Terebinth	
	Ichthyl	āā 3j
	Camphoræ	3ss
	Ung. Zinci Oxid. ad	3j

In cases of hot sweating the hot baths are omitted, and their place taken by washings with decoction of tan, or weak borax baths, to lessen the hyperæmia. *Sulphur, resorcine, ichthyl, naphthol*, and *salicylic acid* are the most suitable applications in these cases, and it should be remembered that the free secretion immediately tends to reduce their strength, so that they should not be used too weak.

Another plan of treating hyperidrosis of the feet is to envelop them in strips of salicylic soap plaster, 3-5 per cent. The immediate effect of this is excellent. After a week or ten days the patient seems to be perfectly well, but unfortunately there is a great tendency to recurrence. This may, however, be prevented by using dusting powders containing salicylic acid (2 per cent.). Powdered tartaric acid is said first to stimulate and then to paralyse the glands, and is worth a trial.

Other methods of treatment are the application of *Condy's fluid, nitrate of silver*, or the German military method of painting with a 5 per cent. solution of *chromic acid*. Formalin has been used extensively, and with excellent results, in the French army, the feet being bathed in a 1 per cent. solution.

For very obstinate cases Neebe recommends a most heroic remedy. He pours enough *crude hydrochloric acid* into a large, flat dish to just cover the soles of the feet; the patient stands in this for five to ten minutes, and then washes his feet in warm water and soap. A complete cure is said to require bi-weekly applications for four to eight weeks, and one can only admire the heroism of those who undertake it. Another application is the *liquor ferri perchlor.*, followed by some soothing dressing.

Howard Pirie has recently recorded the cure of some obstinate cases of localised hyperidrosis by the persevering yet cautious use of X-rays.

In mild cases it is usually enough to order the patient to wash the feet at least twice daily, to change the socks every day, and, before putting them on, to dust into them some antiseptic powder, e.g. *boric acid*, or 2 per cent. *salicylic acid* in talc or starch. Loosely-fitting shoes and woollen socks should invariably be worn, and any tendency to flat-foot must be corrected.

ANIDROSIS

Total suppression of the sweat probably rarely, if ever, occurs, and the term is generally applied to those cases where the secretion is diminished, as at certain stages in a number of systemic diseases. The secretion is also very notably diminished in ichthyosis, and in many of the dry pruriginous eczemas.

Usually the cure of the condition to which the arrest is due is followed by the restoration of the secretion. Complete cure is so unlikely in ichthyosis that one cannot hope for much improvement, and the skin must be permanently artificially lubricated.

Stimulation of the skin by hot baths and massage is useful. Pilocarpine may be administered, but most useful of all are those general methods which increase the subcutaneous fat situated in relation to the sweat glands. Cod-liver oil or glycerine in large doses are favourite remedies, and the diet should be as fattening an one as the patient can digest.

CHROMIDROSIS

(χρῶμα—colour)

Most cases of chromidrosis are met with in hysterical young women, but we not uncommonly meet with red staining of the clothing in the axillary region which is due to the growth of organisms. These grow on the hair sheath, and the sweat is stained after excretion. My experience accords with that of other observers, who have met with this most commonly in medical men and students. Probably they are more observant than others. Treatment is not very satisfactory. The parts should be shaved, kept scrupulously clean, and sponged twice daily with perchloride spirit (1 in 1000).

Blue sweat is probably due to the presence of the *bacillus pyocyaneus*, and bloody sweat owes its colour to the *micrococcus prodigiosus*, but they and the other varieties occasionally described are the rarest curiosities, and still more rarely have they any practical importance.

SECTION IV

ANOMALIES OF CIRCULATION

HÆMORRHAGE

HÆMORRHAGE may occur accidentally in any disease of the skin associated with any marked and especially with any rapid dilatation of the vessels. It is not infrequently present in certain forms of erythema, less commonly in urticaria, and it is occasionally observed in herpes, pemphigus, and dermatitis herpetiformis. Hæmorrhages, too, are not uncommon in long-standing cases of dermatitis or eczema, particularly of the lower extremities. It sometimes follows on the ingestion of certain drugs, such as iodides, phosphorus, mercury, and the salicyl compounds.

With the exception of these last, it is to be regarded as an accidental complication of an existing disease and is of secondary importance. Purpura, the term applied to those cases where the hæmorrhages are the primary and usually the sole lesion, is, as already indicated, rather to be regarded as a disease of the blood, and for its full consideration the reader is referred to any modern text-book of medicine. A few words, however, may be devoted to the diagnosis from other lesions on the skin, with which the hæmorrhages of purpura may be confused. The purpuric lesion is at first bright red in colour, the colour being pretty nearly the same all over; it tends to be circular in shape and it does not disappear on pressure. If small in size we are unable to note any elevation above the surface, but if the hæmorrhage is considerable there is more or less projection. As the lesion grows older the brightness fades, each lesion goes through the play of colours of a bruise, and eventually disappears. The lesions are most numerous on the most dependent parts, and are thus most common upon the legs. This is the

case even in children where the distribution tends to be more general; but, if the child is confined to bed, the lesions are often most numerous on the back or about the neck.

The lesions of the inflammatory diseases, which are sometimes of a very bright red colour, are easily distinguished from hæmorrhages by the fact that their colour disappears on pressure. Indeed, the only important lesions which could possibly be confused with those of purpura and which do not disappear on pressure are those of tuberculosis and certain forms of syphilis. In the case of the former, pressure causes the disappearance of any hyperæmia which may be present, but discloses the rounded, brownish-yellow nodules, the colour of which has been compared by Hutchinson to apple jelly or barley sugar. In the florid syphilides, which at the first glance may suggest purpura, all the red colour disappears on pressure and only a dirty yellow stain is left.

PEDICULOSIS CORPORIS

The only form of primary hæmorrhage which can be properly regarded as a disease of the skin is that produced by the ravages of the *Pediculus corporis sive vestimentorum*, a diagram of which is annexed.



FIG. 4.—*Pediculus corporis*.

The hæmorrhagic spot in pediculosis differs from that of purpura in two respects. It has in its centre a dark point which represents the puncture of the insect's proboscis, and it is surrounded by a pink halo of reaction which is absent in the lesion of uncomplicated purpura. In addition, hæmorrhagic crusts are frequently present. The irritation caused by the *pediculus* leads to scratching, and the patient's back is usually marked by his nails. These marks are always to be found within reach of the fingers. Thus on the back they reach from the neck a certain length down between the shoulders. They are frequent about the lower angle of the scapula where the hand of the opposite side can reach, while the centre of the back is usually, except in acrobats, free. The presence of these "scratch" lines is almost

enough to enable one to make a diagnosis. In no other disease does the patient scratch so savagely. The discovery of the *pediculus* of course makes the diagnosis absolute. It is found by carefully everting the neck of the shirt, for the insects have a special preference for the upper part of the back. Failure to discover them is, however, no proof of their absence. It is very common for patients to pay the doctor the compliment of putting on a clean shirt, and the search is often in vain. The disease is most common in the elderly, and, as in other parasitic diseases, the social position of the patient must never lead the observer astray. Complaints of severe itching, along with scratch marks about the neck and shoulders in elderly spinsters, widows, and widowers, should always suggest pediculosis.

TREATMENT.—Successful treatment depends of course on the destruction of the cause. It was formerly the custom to devote most attention to the clothes, but Allan Jamieson has pointed out that the ova of the insect are frequently found on the lanugo hairs of the body, and this explains the recurrence of the disease in cases where the clothes have been thoroughly disinfected. The treatment, therefore, must be twofold. The clothes must be thoroughly disinfected by heat, moist or dry; and the whole body should be rubbed with a parasiticide ointment, such as sulphur or stavesacre.

The patient's attention must be directed to the importance of closer attention to personal cleanliness, and Jamieson says that a small bag of sulphur worn round the neck next the skin acts as a practical "charm."

THE ANGIO-NEUROSES

URTICARIA

(*Urtica*—a nettle)

The name of this disease almost renders a detailed description unnecessary. The lesions exactly resemble those produced by the sting of the nettle, and the sensations of burning and itching which accompany them are precisely similar. The wheals are elevated, firm and elastic, white in the centre, with

a reddish border. There are exceptionally cases of what has been called **red urticaria**, where the white centre of the wheal does not appear.

The nature of the process may best be explained as follows:— If in a healthy person a streak made on the skin with some blunt instrument be carefully watched, there will be seen to appear at once a thin red line, which almost immediately turns white, and persists in this form for some minutes. The first effect of the irritation is a momentary dilatation of the vessels, and this is followed by contraction. In some persons where the vessel nerve connection is not perfect, the redness persists

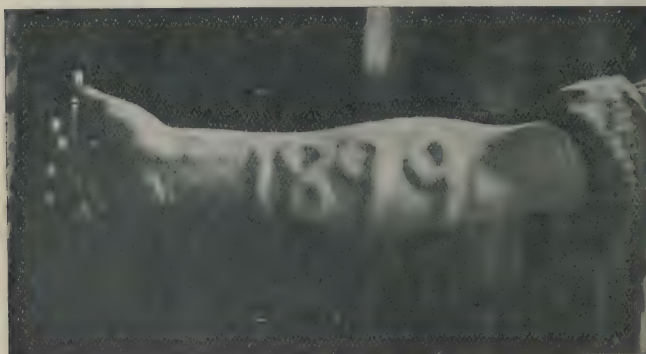


FIG. 5.—Factitious Urticaria (dermographism).

for a considerable time, and then gradually fades away. This is practically identical with the phenomenon known as the *tache cérébrale*. In a certain number of individuals the redness which first appears is carried on a stage further; in addition to dilatation of the vessels, serum is poured out from them. The serum, getting into the interstices of the tissue, compresses the vessels from without, and gradually empties them, and thus we have produced a white wheal, the border where the compression is not effective remaining red. This is the condition known as dermographism (Fig. 5) which in mediæval times was attributed to demonic influence. In cases of red urticaria the tissues are presumably looser, and the vessels not so readily compressed.



URTICARIA

Urticaria may also attack the mucous membranes, particularly the gastric and bronchial; in the latter instance leading to the development of asthmatic symptoms.

The points to be kept clearly in mind are that the control of the nerves over the blood-vessels of the skin may be upset in a variety of ways, and that idiosyncrasy plays a very large part indeed in the production of urticaria. There are a few people who can handle nettles with impunity, and many more in whom the sting of the midge or flea produces hardly any reaction, and the same variations are seen in connection with all the other irritants which produce urticaria.

In some cases the cause is obviously external, in others it is internal, and in yet others the disease is induced reflexly. It is probable, however, that external irritation plays an important part in all, and that friction is usually a factor in the production of the wheal.

External Irritants.—Amongst these are included the stings and bites of various members of the animal and vegetable kingdom, *e.g.* jelly-fish, mosquitoes, midges, caterpillars, and the stinging nettle. Another group less well known is that of the *chemical* irritants, such as those substances used in finishing, dyeing, bleaching, or even the washing of clothes. Many people predisposed to the malady are unable to wear any other material next their skin than silk; and in one case under my care a lady frequently had a severe attack of urticaria when clean sheets were put upon her bed (the sheets were washed in a “steam” laundry). Extreme degrees of heat and cold favour the production of wheals in some persons.

Internal Irritants.—These may be best considered as poisons brought by the blood stream to the skin, and according to Walsh the eruption is the result of an endeavour on the part of the skin to throw off or excrete the poison. (Some writers regard these irritations as reflex, but it is probably more correct to regard them as poisons. No one looks upon the eruption produced by, say, copaiba, as a *reflex* irritation.)

Among the internal irritants, drugs occupy an important place. The commonest drug rashes are urticarial or erythematous in type; indeed, the same drug will produce in one person urticaria, and in another erythema. Then we have

certain substances taken as food. Everyone is liable to urticaria, but some are more liable to it than others. There are one or more substances which make almost everybody temporarily, at least, more susceptible. Everyone knows that oysters produce nettlerash, and yet what millions of oysters are eaten every year without producing any ill effect! The person who has eaten oysters by the hundred with impunity may suffer at last, and may find to his bitter regret that he is never able to eat them again without the eruption reappearing. But though oysters are perhaps the producers of urticaria *par excellence*, there are hundreds of other things which are poisonous in the same sense. Thus although out of, say, one thousand people, twenty or thirty might be affected by oysters, one may be affected by one or other of the other articles which are known to produce the condition. Here, again, the patient may have all his life partaken at intervals of what has now proved to be to him a poison; it may be that the effects pass off and he can again partake of it with impunity, or it may be that he can never partake of it again without producing the eruption. An inquiry into such possibility should come early in the investigation of every case. Over and over again I have seen patients dieted, drugged, and sent in search of health to one after another health resort, when the whole explanation was that some simple article of diet had become poison to them. It is indeed often difficult to persuade patients that such common articles of diet as eggs, coffee, Finnan haddock, and the like can possibly be responsible for this troublesome eruption, but they can. There are indeed so many articles of diet which may in certain persons call out the eruption, and which are not generally suspected, that the following list, compiled from all the well-known works on dermatology, is worthy of attention. Oysters, clams, mussels, whelks, lobsters, crabs, prawns, and shrimps. Salt fish, dried fish, Finnan haddock, and flounders. Strawberries, raspberries, rhubarb, cherries, preserved fruits, nuts, almonds, mushrooms, cucumbers, and pickles. Rice and oatmeal, cheese, coffee, pork, sausages, goose, salt meat, mutton, hare, rabbit, and eggs.

As an instance of the importance of the detective faculty

in the elucidation of such cases, one medical man told me that he had himself discovered that while forced rhubarb invariably caused urticaria, he could eat common garden rhubarb with impunity.

In all cases the state of the gastric and intestinal functions should be investigated, since poisons resulting from katabolic changes in the alimentary tract may be absorbed, and by auto-intoxication give rise to urticaria. Unfortunately, our knowledge is not as yet sufficiently extensive to enable us always to recognise the particular toxin which is responsible, and individual idiosyncrasy plays an important part, but the result of strict dieting and the administration of intestinal antiseptics demonstrate the importance of this factor.

Reflex Causes.—The most important of these is the presence of worms in the intestine, and this should at once occur to the physician in every case of urticaria in a child.

Uterine and ovarian disease are other fruitful sources of reflex irritation. Often the cure of an apparently trivial affection in these regions will be followed by the disappearance of an urticaria. It is a common observation that it frequently follows the tapping of a hydatid cyst of the liver, but other hepatic disorders may be responsible for a reflex urticaria. Indeed, certain anomalous outbreaks of urticaria are, in my experience, not infrequently among the earliest symptoms of some serious liver disease, such as gall-stone, cirrhosis, or even cancer. Cases are recorded where certain odours (aromatic essences, iodoform, or even roses and hyacinths) have evoked the eruption.

VARIETIES.—If the histo-pathology of the affection, namely, an accumulation of serum in the interstices of the skin, be clearly understood, it is easily seen how varieties may occur. Thus the fluid may not be confined to the corium, but may escape and raise the epidermis in a vesicle or bulla, a condition which has been distinguished by the name of **Urticaria bullosa**; or the vessels may give way and hæmorrhage take place, **Urticaria hæmorrhagica**.

The most important variety of the disease is that known as **Lichen urticatus**, or **Urticaria papulosa**. One is often consulted regarding a child, who is said to suffer from itching. On examination, a number of papules are seen, most of them

surmounted by a tiny hæmorrhagic crust, and all or nearly all of them within reach of the child's fingers. The appearances suggest scabies, but the favourite seats of that disease, the hands, wrists, and feet, are not specially affected. Very often as soon as the clothes are taken off, the child begins to scratch himself, when a wheal will develop and disclose the real nature of the disease. If he does not do this, the observer should do the scratching. Usually the mother, if observant, has noted the appearance of these lesions, but they are so evanescent that their importance is apt to be obscured by the more lasting crusted papules.

Another variety of the disease is known as **Giant urticaria**, or acute circumscribed œdema (Quincke's œdema). This is more common in adults, and is sometimes associated with alcoholic excess. According to Schlesinger it is sometimes hereditary, especially in the male line, and he notes as predisposing factors, hysteria, puberty, the climacteric, syphilis, etc. It sometimes follows on the simpler form of the disease, and occasionally gives rise to grave symptoms by making its appearance on the mucous membranes of the throat and larynx, and threatening suffocation. The process is the same, but since the vessels affected are the larger ones of the hypoderm, the swellings are much larger and deeper. There is not the same intense burning and itching which is so frequent in the commoner variety of the disease; indeed the patient himself is sometimes unconscious of its presence. As a rule, it appears and disappears rapidly as does an ordinary urticaria, though on account of its great depth this process is naturally more deliberate and is occasionally very prolonged.

Urticaria pigmentosa is described later as *xanthelasmaïdeæ*.

DIAGNOSIS.—The diagnosis of a wheal is a matter of no difficulty. The wheal is merely a symptom which is evoked with greater or less facility according as the skin is more or less intolerant of various irritants which paralyse the nerve control of the vessels. Thus the importance of the diagnosis is not so much in the actual recognition of the condition as in the recognition of its cause. When the wheal is found the diagnosis is only begun. Urticaria is one of the many diseases of the skin where the cultivation of the detective

instinct is of much value. There are a great many mysterious outbreaks of nettlerash which can be traced to their source by careful prolonged investigation. One case was brought to my notice where urticaria developed invariably after eating Finnan haddock, but the connection never occurred to the patient until the line of inquiry was laid down by a well-educated surgeon.

PROGNOSIS.—The prognosis, too, depends on the cause of the malady. In the acute cases it is usually good, but sometimes an irritant which produces an acute attack seems to arouse in the skin a latent tendency to the disease, which lasts long after all traces of the irritant must have passed away. Thus, I was once consulted by a patient who, after an oyster supper at Christmas, had a severe attack of acute urticaria. When I saw him, in June, although he had eschewed oysters ever since, the urticaria was still very troublesome. The prognosis really depends on the ability of the physician to find out the cause of the disease.

TREATMENT.—In cases of acute urticaria, due evidently to some obvious error of diet, an emetic or a sharp purge should be ordered. If parasites, either external or internal, are present, their removal is usually followed by the disappearance of the urticaria. If neither of these obvious causes exist, attention should next be directed to the condition of the internal organs, and any disturbance, however apparently trivial, should be corrected. The food must be next attended to. There are wonderfully few articles of diet which may not produce the disease in some persons. The articles which are well known to produce it have already been referred to; but, if a case continues obstinate, the various common articles of food and drink should be intermitted in succession, until eventually the guilty one is found.

External irritation must be guarded against. Allusion has already been made to chemicals used in washing the underclothes, but the underclothes themselves should, in those subject to the disease, be very soft and unirritating. It may often be necessary to wear linen under the flannel garments, or to have recourse to those made of silk.

A cold bath sometimes seems to be responsible for the

keeping up of the disease, and its modification or abolition may be desirable. Further, irritant substances connected with the patient's work may have a bad effect; and the possibility that the patient may be taking some drugs—antipyrine, quinine, chloral, etc.—should be borne in mind.

If absorption of toxin from the alimentary tract be suspected, intestinal antiseptics should be employed, and the diet should be simplified or even reduced to milk only.

Treatment of the disease apart from a known cause is necessarily empirical. *Ichthyol* has, in my experience, proved the most reliable drug. To adults it may be given in capsules (5 minims three times a day). Children take it quite readily, mixed with an equal amount of glycerine. Salicylate of soda, salol, aspirin, and quinine are all worth a trial. Chloride of calcium, strongly recommended by Wright, has, I regret to say, not proved of much value in my hands. Lactate of lime is well spoken of. Unna gives *ichthyol* during the day and an atropine pill at bedtime. Antipyrine and phenacetine are occasionally administered with success.

No local treatment has any real effect on the disease, but the symptoms of burning and itching may be mitigated by the application of lotions similar to those recommended under *Pruritus*.

The disease known as **Epidermolysis bullosa** is, I believe, related to urticaria. It is an hereditary disease, often affecting, as such diseases do, only one sex in a family. The lesions, which are most common upon the hands and feet, are produced by some form of irritation, usually friction, but the escape of serum from the vessels is so great that the epidermis is raised in a bulla, into which hæmorrhage often occurs. As a rule the nails are affected, being atrophied and deformed, and hæmorrhages from the mucous membranes (probably indicating lesions there) are not uncommon.

The disease is rare, and treatment not very satisfactory, but the various drugs recommended above may be tried.

ERYTHEMA

(ἐρυθρός—red)

“Erythema” strictly means redness, and in this sense it has been applied to a number of conditions where the redness of the skin was brought about by some deep-lying disease, such as an abscess or dropsical fluid distending the skin. Like many other of the older names, it has latterly become more restricted in its use, and for practical purposes it may be taken to mean the disease called by Hebra, *Erythema exudativum multiforme*. This name, though comprehensive, is eminently descriptive of the eruption. We have *erythema* or redness,

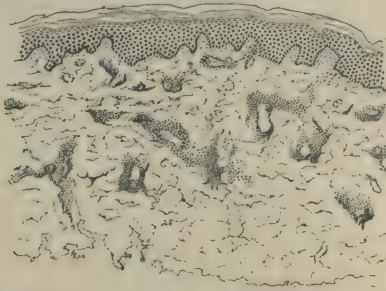


FIG. 6.—Section from a case of Erythema multiforme. Dilated vessels surrounded by cellular infiltration. Some thickening of the horny layer.

exudation into the deeper layers of the skin; and the *forms* which it may assume are indeed *many*. In distinction from urticaria, to which it is not distantly related, the vessels are not compressed, and thus the lesions have always a red colour. The accompanying drawing is from a section of a nodule on the wrist. It shows the distended vessels surrounded by leucocytes, and a certain amount of thickening of the horny layer which is not present in urticaria, and is an indication of the more durable character of each lesion. More frequently than in urticaria the process of exudation extends to the surface and there is often in the centre an elevation of the horny layer leading to quite a considerable bulla. Such cases

are often diagnosed by those unfamiliar with the disease as pemphigus.

Certain accompaniments of the disease place it almost beyond doubt that it is due to some poison circulating in the blood. Thus it is often ushered in by a rise of temperature and some disorder of one or other of the mucous membranes, or by pains about the joints. In many cases the eruption is roughly symmetrical, attacking both hands or both feet, both arms or both legs. The occasional occurrence of groups of cases suggests something of an epidemic character. Like many skin diseases, it is said to be more common in spring and autumn. If the terms spring and autumn be inquired into, it will generally be found that they must be considerably expanded in order to fit in with this theory. It is most common in the young, and there is a very suggestive connection with the rheumatic poison in some of its varieties. The forms of the disease differ so much that it is advisable to consider them separately.

Erythema nodosum.—This is most common in adolescence, and affects the female sex in the proportion of two to one. It is accompanied by more or less constitutional disturbance, and often by pains in the joints, sometimes so severe as to suggest the onset of acute rheumatism. A series of "oval swellings with their long diameter parallel to that of the limbs" appear on the extensor aspects of the legs and arms, below the knees and elbows, frequently only on the legs, and practically never on the arms alone. Although the oval swelling may be the most typical form assumed by the lesions, they are by no means invariably of this shape, as is shown by the accompanying plate. At first bright red, they soon become dusky, and a purplish tint makes its appearance. At first firm and tense, and very tender on pressure, they afterwards become softer, and give the sensation of containing fluid, though they never suppurate. The first eruption is rarely the last; repeated crops make their appearance, and prolong the duration of the disease to from three to six weeks. One attack does not protect from subsequent ones, but there is no great tendency to recurrence.

The connection of this form of the disease with rheumatism



ERYTHEMA NODOSUM. . .

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ERYTHEMA IRIS.

is very suggestive. It frequently occurs in rheumatic patients, and even more frequently in those who have suffered from some of the other diseases which are associated with that poison, such as chorea, endocarditis, and quinsy.¹

The disease must be clearly distinguished from a much rarer condition, erythema induratum, or Bazin's disease, which is described among the tuberculous affections, and which also finds its victims mainly in young women.

TREATMENT.—The treatment of this form of erythema is fortunately simpler and more satisfactory than that of most of the diseases of the skin which are due to internal poisons. By almost universal accord salicylate of soda² is regarded as almost a specific. It should be given in full doses. There is one other specific for erythema nodosum, and that is *rest*, which is as important, if not more so, than the administration of any drug. No local treatment has any curative effect, but the part may be protected by the application of glyco-gelatin or cotton-wool.

Erythema iris (*iris*—a rainbow) is another very characteristic form of the disease. In my experience, males are more frequently attacked than females.

The spots are round and raised, and, the exudation making its way to the surface, raises a ring of vesicles round the border (herpes iris) or a considerable bulla in the centre. There is a general tendency to a ringed shape, and often a certain play of colours in the different rings, whence arises the name erythema iris. But if one seeks a really apt comparison, the lesions are most like the targets used by the King's Body Guard in Scotland (the Royal Archers).

The usual distribution of the eruption is on the hands and feet, but it very frequently appears also on the mucous membrane of the mouth, where the lesions are rapidly converted into small ulcers and may lead an inexperienced observer to diagnose syphilis. Lesions are occasionally found on the face, neck and

¹ Arguments have recently been advanced to prove that *E. nodosum* is a form of tuberculosis; but the effects of salicin seem to me too striking to be merely coincident.

² Salicin, salol, aspirin, etc., are usually equally efficacious, in exceptional instances more so.

trunk. There is not, as a rule, much pain in connection with this form of erythema, and the general constitutional disturbance is often slight, but it is almost certain that the first will not be the last attack. The coloured illustration shows a typical example, with well-marked formation of bullæ.

TREATMENT.—Left to itself, each attack runs its course in two or three weeks, and in slight cases very little treatment is required. Salicylate of soda is by no means such a specific for this variety as for erythema nodosum, but it is helpful in many cases, especially when the lesions occur on the face and trunk. If it fails, quinine often succeeds. External treatment is usually required; not that it does anything to cure the disease, but it is useful in preventing the infection of the very frequently ulcerated spots. It consists in the application either of some mild antiseptic ointment or paste such as ammoniated mercury (grs. v to ʒj), or of some protective application, such as Unna's gelatine (p. 26).

Peliosis rheumatica (πελιός—livid), *Purpura rheumatica*.—This is another variety which presents such constant peculiarities as to entitle it to a separate description and name though it is much rarer than the form just described.

The disease commences with some systemic disturbance, rise of temperature (up to 102°), and *joint pain*, especially in the knees and elbows. In a day or two lesions begin to appear, usually in the neighbourhood of the painful joints. In many ways they resemble those of erythema nodosum, or multiforme; they are hyperæmic, and elevated from the escape of serum; but more or less hæmorrhage is *constantly present*. Just as in erythema nodosum, the appearance of fresh crops of lesions prolongs the disease, which frequently lasts several weeks. The spots go through the ordinary discoloration process of cutaneous hæmorrhage, and finally disappear, leaving no trace of their presence.

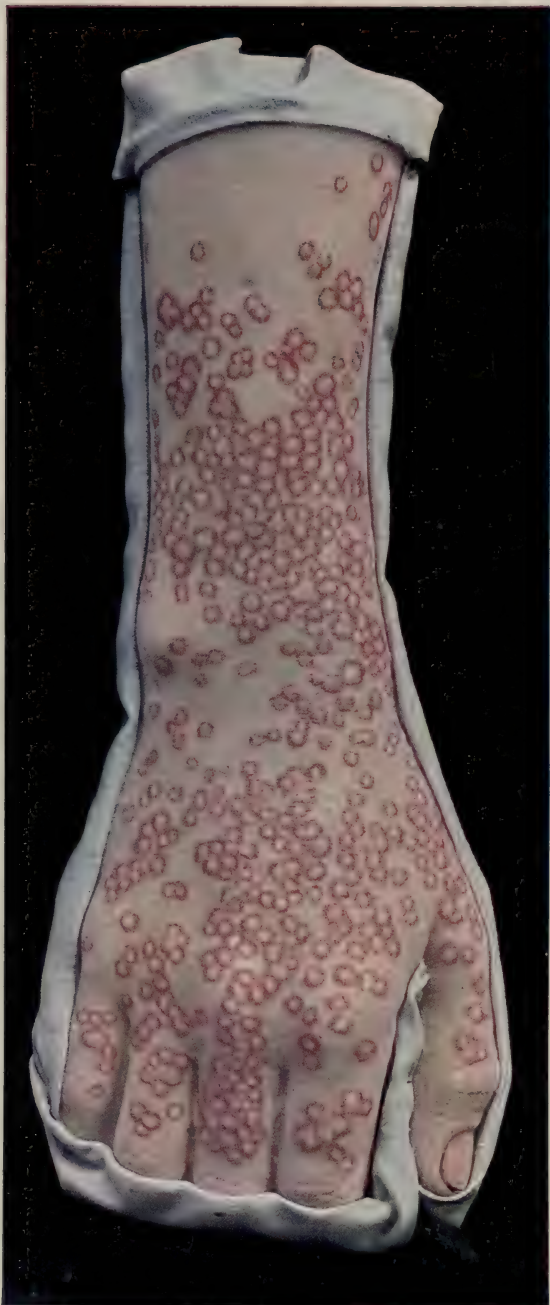
The rheumatic relationships of the disease are fairly evident, though why the lesions should be constantly hæmorrhagic is unknown. The occasional cutaneous hæmorrhages occurring in the course of acute rheumatism should not be too readily christened *peliosis*. Some of them are almost certainly due to the salicylates with which the case is being treated.



ERYTHEMA IRIS



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5



ERYTHEMA ANNULARE.

TREATMENT.—This is to be conducted on the same lines as that of erythema nodosum. Rest, as in all hæmorrhages, is of even more importance than in that disease. The fact that the salicylates occasionally bring about cutaneous hæmorrhages need not be seriously considered. Even if a few additional ones are produced, they are of little account when the drug is gradually overcoming the disease. Quinine may, however, be tried as a substitute.

Erythema annulare.—The annexed Plate shows the hand and arm of a patient in whom the eruption assumed the ringed type known as Erythema annulare. We were unable to trace the toxin responsible, and the eruption gradually disappeared.

Erythema scarlatiniforme.—This is an acute erythema, which so closely imitates scarlet fever as to thoroughly deserve its name. It is ushered in as a rule with some general disturbance, which may vary within wide limits. The rash may appear immediately, or be delayed for a day or two. As the name indicates, it generally resembles that of scarlet fever, though sometimes it rather suggests measles. Desquamation sets in early and is usually very abundant, large sheets of skin being thrown off. Recurrence is not uncommon, and cases are on record where patients have been admitted again and again into fever hospitals for scarlet fever. The cause of the disease is not definitely known, but cases have been observed to follow on various forms of poisoning, septic or other, among which the various drugs which give rise to eruptions must not be forgotten.

Diagnosis is, of course, the most important feature of the disease, and in all cases of doubt it is well to err on the safe side. Generally speaking, the constitutional disturbance is less severe than in scarlet fever, and the strawberry tongue is absent. But there may be redness of the fauces. If the rash resembles measles the diagnosis is easier, for the other symptoms of that disease are absent.

TREATMENT.—A simple dusting powder is all that is required locally, and, except in recurrent cases, no further treatment is required. In them quinine, salicylates, and tonics are said to do something to prevent attacks.

Erythema multiforme.—There still remain a number of forms of erythema, so numerous that they may conveniently all be grouped together as erythema multiforme. If the forms already described are excluded, the remaining varieties may be said to affect the trunk and face more than the limbs. Raised, red patches of various shapes appear on different parts of the body, and the process of exudation may extend to the production of bullæ or even hæmorrhages, often, especially where bullæ are developed, leading the unwary astray to mistake the condition for pemphigus, while there is often a close resemblance between these lesions and those of red urticaria. The lesions of erythema develop more slowly, are as a rule more lasting, less itchy, and of a darker colour than those of urticaria, and there is generally more systemic disturbance.

Erythema multiforme is by no means so obviously related to rheumatism as are some of the named varieties. The eruptions are much more chronic, persisting, it may be, for months, and rheumatic symptoms are chiefly conspicuous by their absence. In some cases, notably those due to the ingestion of drugs, or septic absorption, the source of the toxin is obvious, but in a great many cases it escapes detection, and even prolonged and careful search may be in vain.

In many cases faulty metabolism is the cause, in others deficient excretion, as in those erythemata associated with Bright's disease.

So much at least is clear that the development on the skin of the lesions of erythema multiforme indicates some form of toxæmia, and to the detection of this the efforts of the physician must be directed. When this is discovered, appropriate treatment should be instituted.

Since all are agreed that there is a great variety of causes, it is obvious that as usual the detection of the cause is the first desirability. And, looking back on the drugs which have been recommended for administration, one sees how many of them have at least contributed to render the conditions in the intestines more wholesome. The salicylates, salol, sulphur, quinine, and other tonics all contribute, either directly or indirectly, to a more healthy performance of the intestinal functions, and it is on such lines that treatment of this group

of erythemata must be directed. Plain diet, healthy surroundings, and suitable tonics, attention to the regular movement of the bowels and the state of the digestion, will generally lead to the disappearance of the eruption. Local treatment is directed merely to the protection of the lesions from external injuries, or, if they are ulcerated, to keeping the raw surface clean.

CHILBLAIN

(*Erythema pernio*)

This is usually considered as a variety of erythema, and the redness and exudation are the same as in the other varieties. It must be admitted that in many respects it does not closely resemble the other varieties of that disease. While they are dependent on some internal poison, chilblain is very clearly dependent on the external application of cold. For its development something more is required, however, and Unna considers it to be most correctly described as an acrocyanosis (ἄκρος—a point), for some congestion of the circulation at the extremities (fingers, toes, ears and nose), where it is normally least vigorous, is necessary before the effects of cold are shown in the development of chilblains.

The symptoms are, unfortunately, only too familiar. The irregularly round, itching, burning patches, which appear in winter on the situations above alluded to, and which, when neglected or improperly treated, go on to form small indolent ulcerations, usually require little skill for their diagnosis.

They are found, of course, most frequently in patients with weak circulation, and therefore they occur with exceptional frequency in the subjects of tuberculosis; but there is no etiological connection with that disease.

There is only one disease with which chilblain can be confounded, namely, *lupus erythematosus*. When that disease affects the fingers alone the diagnosis is often very difficult. If scars or the typical mortar-like scales of *lupus erythematosus* are present, the distinction is easy; but when the disease takes the erythematous form, and leaves no scars, one is some-

times driven to wait until the return of warm weather settles the matter.

The two diseases seem to be in some mysterious way related, for the subjects of lupus erythematosus very often suffer from chilblains, while one sometimes meets with a sort of intermediate condition attacking the ears and leading to some destruction of tissue.

TREATMENT.—This is to be directed on lines designed to improve the circulation, both general and local. Cod-liver oil and tonics, such as quinine and iron, should be administered internally. Cold must be avoided; the water for washing must be warm; the skin must be thoroughly dried and warmly clad. Tight boots must be rigorously avoided, and vigorous exercise should be taken to promote the circulation. The local applications recommended are legion, but they all have one aim, namely, to stimulate the circulation. Iodine is one of the best; the ointment, the tincture, or tinct. iodi (3j), collodion (3j), may be tried. Among other stimulants recommended may be mentioned oil of turpentine, Peruvian balsam, and oil of camphor. Boeck, of Christiania, recommends ichthyol, tannin, resorcine, āā 3j, aquæ 3v, to be painted on at night. The application of high-frequency currents is often beneficial, and Bier's congestion method may be tried.

When ulceration has taken place some simple ointment should be applied. Leistikow gives the following as an old and valuable prescription:—

R Balsam. Peruvian	.	.	.	.	.	.	3j
Argent. Nitratis	.	.	.	.	.	.	grs. v
Ung. Spermaceti	.	.	.	.	.	.	3j

SECTION V

INFLAMMATIONS

UNDER this heading are comprised the great majority of skin diseases. Our knowledge has not yet sufficiently advanced to enable us to subdivide them in an entirely satisfactory manner. Unna's subdivision is, however, a working one, although it necessitates some assumptions. He divides inflammations into Traumatic, Neurotic, and Infective, names sufficiently descriptive of the main characters of the diseases they include, although by no means mutually exclusive.

TRAUMATIC INFLAMMATIONS

These are induced by some form of external injury, and may be subdivided according as the cause is *mechanical*, *physical*, or *chemical*.

Mechanical Causes.—The most typical of these is friction, a very common cause of inflammation of the skin; it is usually, however, assisted by the active growth of organisms on the inflamed surface.

Physical Causes.—These include the various forms of light and heat, which are quite different in their effects. Sunburn is caused by the light and not by the heat of the sun. The severest sunburns occur high up among the cold of the glaciers, and it is to the ultra-violet rays of the light that the ill-effects are due. The electric arc light produces a condition somewhat like sunburn, while the X-rays cause severe dermatitis, and sometimes considerable destruction.

Prolonged heat produces, as on the legs of stokers and cooks, deep pigmentation often accompanied by some inflammation. The milder forms are evidenced only by moderate

scaling of the surface, but the effects of course depend upon the extent of the period of exposure, and the idiosyncrasy of the individual.

Chemical Causes.—It is impossible to give a complete list of all the chemical substances which induce irritation of the skin. The effects are not all to be regarded as inflammatory; some of them, for instance, are almost purely urticarial, as the sting and bite of various plants and insects. Paraffin induces a growth of epithelium, sometimes of epitheliomata, which can hardly be ranked with inflammations, and many of the caustics produce simple death of the tissue without any inflammation at all.

DERMATITIS VENENATA

(*Venenatus*—poisoned)

The forms of inflammation which are produced by the external application of chemical irritants are erythematous, vesicular, or pustular. These may be present alone or grouped in various ways. For instance, croton oil produces an *erythematopustular* rash, while the *rhus toxicodendron* produces an *erythematovesicular* one.

Aniline dyes, especially the orange dyes, are sometimes the cause of an eruption, papular, vesicular, or pustular.

Arsenic in the form of a dye is often irritating, and if the cause is not recognised, and arsenic is given to cure the "skin disease," bad is made worse. Cheap black stockings very often contain arsenic.

Certain drugs when applied to the skin may give rise to some irritation, some of them invariably, others exceptionally. Chrysarobin, cantharides, mercury, and mustard are among the more familiar. Applied diluted they produce erythema; when strong they induce papular and vesicular eruptions.

The **juices of certain plants** set up a severe form of dermatitis, some in all, some only in certain individuals. The poison ivy, the poison oak, and the poison sumach (*Rhus toxicodendron*, *Rhus diversiloba*, *Rhus venenata*) are very familiar to American dermatologists, and cases occasionally crop up in

this country, where the *Rhus toxicodendron* is found disguised under the name of the *Ampelopsis Hoggii*.

Thanks to the kindness of Dr. H. W. Nott of Little Sutton, Chester, I am able to reproduce two photographs of a patient, one showing him in his normal appearance, the other showing

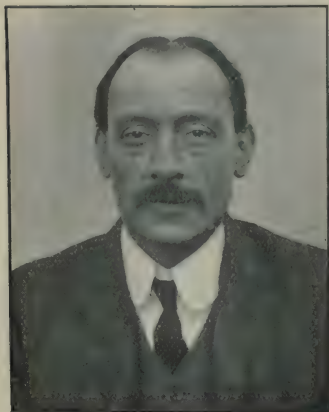


FIG. 7.



FIG. 8.

the effects of exposure to the *Rhus toxicodendron*. Dr. Nott published the case in the *British Medical Journal* (Aug. 27, 1910).

Dr. J. C. White, referring to other suspected creepers, says: "If one would only remember that three leaflets mean possible danger, and that five mean safety, mistakes would not so often occur." The *R. vernix*, which grows in Japan, is said to be more irritating than any other plant; it is used in the preparation of Japanese and Chinese lacquer work, and the effects of fresh lacquer are so familiar, that "varnish" poisoning is well known in these countries. In specially susceptible persons old lacquer goods may set up the irritation.

The *Primula obconica* is the plant which in this country is most commonly responsible for a similar dermatitis. Prof. Bayley Balfour has kindly furnished me with the illustration from which Fig. 10 is taken. The following are some of the plants which are known to cause dermatitis:—Balm of Gilead, burdock, buttercup or crowfoot, cowhage, clematis,

daisy, daffodil, eucalyptus, horse-radish, *Humea elegans*, hyacinth, larkspur, leopard's bane, parsnip, primrose, rue, smartweed, traveller's joy, vanilla, virgin's bower, wood



FIG. 9.—*Rhus toxicodendron*.

Illustration kindly furnished by Dr. Frank Nicolson of Hull.

anemone. Any eruption in those who have to do with flowers, plants, or wood (teak, mahogany, satinwood, green ebony, lignum vitæ) should arouse a suspicion that these may be the cause of the eruption.

The eruption caused by plants usually begins on some exposed part (face or hands) as an erythemato-vesicular rash associated with marked burning and itching. It soon spreads



FIG. 10.—*Primula obconica* (the Chinese Primrose).

to other regions, and an alarming amount of œdema is frequently developed.

(See further under Eczema.)

TREATMENT.—In the acute stage soothing lotions and dusting powders are generally useful, a lotion of sodii hyposulph. 3j,

glycerine ʒss, and aq. ad. ʒviiij being recommended by Munro for the severe cases of rhus poisoning. In the later stages he recommends Lassar's paste, and that will generally be found useful in the less severe forms of dermatitis venenata met with in this country. White, of Boston, who has made a special study of rhus poisoning, recommends black wash. After all, the essence of successful treatment is the recognition and removal of the cause; thereafter the dermatitis is to be treated according to the degree and form of the inflammation present. Unfortunately this does not always subside so quickly as one would expect, and acute recrudescences, even although there has been no re-exposure, are not uncommon.

Trade Dermatitis.—Inflammation of the skin of the hands, due to irritants among which the patient works, is very common. Washerwoman's eczema, baker's itch, etc., are old familiar forms; but printers, silver-platers, photographers, furniture polishers, rubber-workers, packers, and others are often attacked. In most cases some lowering of the systemic tone has preceded the attack; were nothing but the irritant involved, every worker would be affected. The form of the eruption varies with the irritant: suspicions of its nature are usually aroused by the limitation to the hands or to the hands and face; and the history of the case, rather than the presence of vesicles, crusts, etc., is the guide to a correct diagnosis.

Strictly speaking, all the various trade eruptions are varieties of dermatitis venenata, and, like that form of inflammation, they speedily disappear when the cause is removed. But if the patient's general health is below par, the irritant may provoke an inflammation which does not subside immediately the irritant is removed, and is probably due to the organisms commonly present upon the skin acquiring increased virulence. If the patient is young, I am sure the best advice he can get is to change his employment. He will, of course, demur, and suggest that he has spent it may be some years in learning it, but if after one or two trials his skin is found invariably to break down on resuming work, it is much the wisest advice to give and much the wisest course to follow. It is, however, very often impossible for the patient to give up or even to

change his occupation, and therefore some directions for the management of such cases will be of value.

TREATMENT.—The principles of management are to preserve to the skin the lubricant which naturally protects it from irritation, and to supply one in its place where it is deficient. The directions are Unna's, and will be found most useful.

At night the patient should wash his hands first with oil, then with soap and water. Two or three waters should be used so as to ensure the removal of all the soap. The hands are then dressed with strips of cloth spread with oil or ointment. In the morning this is removed with *dry* wool, and the parts are rubbed with the salve stick (p. 29), a mixture of wax and lanoline not easily saponified by alkalies (so often the irritant). This may be applied at intervals during the day, as necessary. After work the hands should be cleansed with oily wool, thorough washing being limited to once daily. Housewives should do all their dirty work at once, then thoroughly wash the hands, and keep the dressings closely applied for the rest of the twenty-four hours. Hebra's ointment is a very useful application, and weak resorcine ointments or solutions help to make the epidermis more resistant.

DERMATITIS MEDICAMENTOSA

The number of drugs which, taken internally, have been reported once or oftener to be the cause of an eruption on the skin, is so great that it would be impossible, in the limited space of a work such as the present, to do more than name each. Many of them, however, are merely curiosities of idiosyncrasy, and their effects, though interesting, are of little practical importance.

The production of a rash by a drug must in all cases be regarded as an idiosyncrasy on the part of the patient, otherwise such rashes would be much more frequent. Various other factors, however, come into consideration. Sometimes, for instance, the rash is due to some impurity in the drug, sometimes to the condition of the patient's stomach; perhaps more often to the condition of his kidneys. Iodide rashes, for instance, are more easily produced when there is albuminuria.

Speaking generally, the drug rash, as one would expect, resembles that of those diseases which are attributable to the circulation of some irritant in the blood, and thus the majority of drug eruptions are *erythematous* or *urticarial* in their nature. But, just as in the diseases of these types, the exudation of fluid is sometimes very great, and vesicles and bullæ may accidentally be produced, as in herpes iris and erythema bullosum.

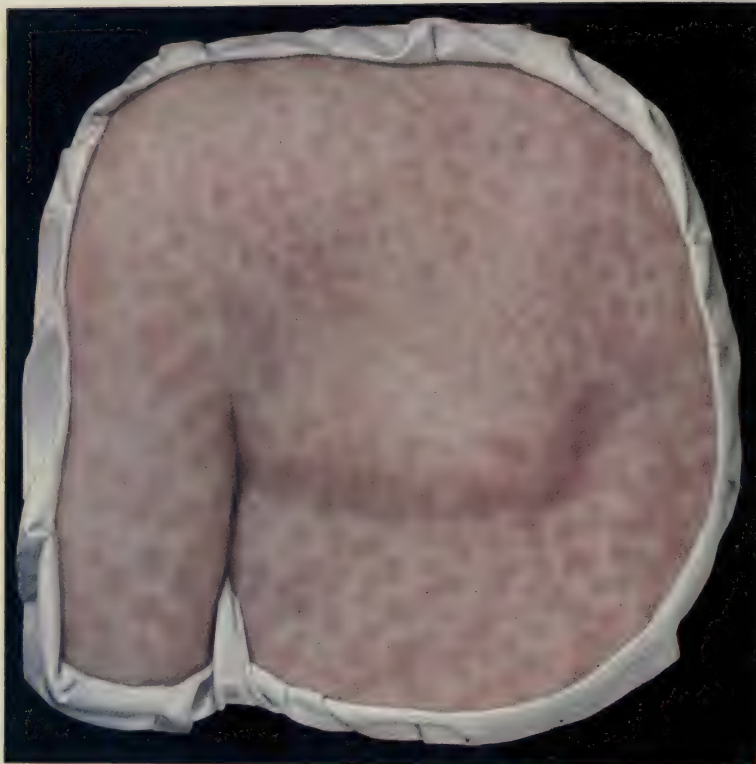
The rashes associated with the more commonly used drugs may be briefly described. For fuller information on the subject, Dr. Colcott Fox's admirable critical summary of Morrow's work on drug eruptions should be consulted (*New Sydenham Society*).

Antipyrine.—The antipyrine rash sometimes resembles that of measles, and sometimes takes the form of isolated, rounded reddish areas. The eruption lasts for three or four days, and is followed by desquamation. It is said to affect the extensor rather than the flexor surfaces, and generally to spare the face and the upper part of the neck. Sometimes one dose is sufficient to produce the eruption; usually it appears after some days' administration.

Antitoxine.—The injection of antitoxine sometimes causes a widespread erythematous or urticarial eruption. The eruption is independent of the amount injected, and its appearance is often delayed for some days.

Arsenic.—Every now and then an epidemic such as the Manchester beer one draws attention to the great variety of eruptions which may be produced by the prolonged administration of arsenic in small doses. All sorts of eruptions may be produced, but when administered in small amounts for a long period the evil effects on the skin are usually shown first upon the palms and soles. These may become slightly hyperæmic, the so-called "pink palm," or the effects may concentrate themselves in small hyperkeratotic areas which have not infrequently been noted later to become malignant. Later, the skin of the legs becomes inflamed and a dermatitis is produced which passes as eczema until its cause is determined. Perhaps the most striking of the eruptions which is associated with the administration of arsenic is that of zoster, which

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COPAIBA RASH

especially in its thoracic form is undoubtedly exceptionally prone to occur in those who are taking this drug.

Belladonna.—The rash of belladonna is very bright in colour, closely resembling that of scarlet fever. It is most common on the face and neck, has a very short existence, and is not followed, as a rule, by desquamation. Itching is a prominent feature.

Boric Acid.—Boric acid is sometimes followed by an erythematous rash, but the most important eruption is the one first described by Gower in 1881 as resembling psoriasis. The resemblance is not usually very close; it is really a fine papular eruption, each papule becoming scaly on its apex. I have more than once seen it occur in patients whose bladders were being washed out with boric solutions.

Chloral.—The chloral eruption is not now seen so often as formerly; some say because of the greater purity of the drug, but probably also for the simple reason that it is not so frequently used. It specially affects the face, producing a diffuse erythematous redness, and is much aggravated by the ingestion of hot drinks or food. Other forms of rash—urticarial, vesicular, and hæmorrhagic—have been noted.

The **Copaiba Rash** is a very familiar one. Sometimes it appears immediately after the taking of the drug; sometimes a few days elapse. The type of rash is a papular erythema, not unlike measles; but it is especially distributed around the joints, more particularly the hip joints. It is associated with considerable itching, disappears when the medicine is stopped, and is usually followed by slight desquamation.

Mercury.—The skin rash most associated with mercury is that which follows on its external application; but erythematous rashes, sometimes resembling those of scarlet fever and sometimes multiform in character, have been noted to occur after the internal administration of the drug, usually in heroic doses.

Morphia.—Owing to the wide use of morphia, the fact that it may produce a rash is especially important. Short of a rash it may lead to the sudden development of intense itching, an additional warning that it should never be given for the relief of that symptom. The characteristic morphia rash is

erythematous, resembling scarlet fever, and is followed by profuse desquamation. The rash is so like that of scarlet fever, that if there should happen to be at the same time congestion of the throat, the diagnosis is a matter of considerable difficulty. Urticarial and papular rashes are exceptionally noted.

Quinine.—The rashes associated with this drug vary greatly in character, almost every form of elementary lesion having been observed. The most common is the erythematous, which appears first on the face and neck, and may spread all over the body. As in similar drug eruptions, desquamation usually follows. The urticarial form which is sometimes assumed may be exceptionally severe, leading to closure of the eyes and a sensation of oppression of the chest, possibly owing to the development of lesions on the mucous membranes. Papular and vesicular eruptions are less frequently observed, but they certainly do occur. They are sometimes widely distributed, sometimes confined to a limited area. Actual gangrene has been recorded.

Sulphonal.—Sulphonal almost always aggravates any existing skin eruption, and should therefore not be given if any is present. It occasionally causes scarlatiniform eruptions, which are followed by desquamation.

Turpentine.—The internal administration of this drug is followed by an intense erythematous rash, which may be accompanied by a number of papules.

Bromides and Iodides.—The eruptions produced by the bromides and iodides are so common and so important as to deserve more detailed description.

The rashes produced by bromides are many. Urticarial and erythematous forms are frequent; but the administration of *bromide of potassium* is especially associated with a pustular or acne-like eruption. This usually appears in patients who have been taking large doses of the drug, though cases are recorded where almost incredibly small doses have been responsible for its development. It consists in the appearance of a number of follicular pustules, varying in size just like those of acne, from which it is usually easily distinguished by its distribution and the absence of associated comedones. Acne has very special seats of predilection, and very rarely extends beyond the face,



CHARACTERISTIC BROMIDE ERUPTION.

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IODIDE RASH

chest, and back, while the bromide eruption spreads downwards on the trunk, and also appears on the limbs. There is rarely any difficulty in getting a history of the use of the drug, though it may happen that the eruption does not appear until a few days after the administration has been stopped. In children, frequently after quite small doses—one or two teething powders—a more severe eruption is often produced. Of this the annexed Plate is a typical illustration, taken from a patient under the care of the late Mr. Dale Jones, of Sheffield. The lesions are tuberos, dusky red in colour, and, when squeezed, pus issues from numerous openings. Although this form is most common in children, it sometimes occurs in a more chronic form in epileptic adults who have been taking bromides for years. Repeated crops of lesions appear, and scars closely resembling those of syphilis may be developed. Sometimes in adults numerous clear blebs appear on the trunk, closely imitating the pemphigoid rash produced by the iodides.

The *iodide* rash appears in several forms. The doctor may of course be aware that the patient is taking iodide, but a great many cases follow on the taking of certain quack medicines, many of which contain iodide, usually in small amounts. It is an expensive drug. A papular erythema is sometimes seen; sometimes the eruption, like that produced by bromide, simulates acne; but the eruption which is perhaps, more than any other, associated with iodine is a bullous one, somewhat resembling pemphigus. In rare cases the lesions produced are at first solid, and later break down in a manner so similar to the gumma, that one or two patients have been dosed into their graves by the pushing of the very drug which was the original cause of their trouble. In others, large solid tumours have developed, leading to the mistaken diagnosis of malignant disease or even leprosy. Iodic purpura was described by Sir Stephen Mackenzie.

The dose requisite to produce the rash varies. While it usually results from considerable doses, cases are on record where 5-grain doses continued for a day or two have sufficed to produce serious eruptions. It is a matter of common observation that all these rashes are more likely to develop when any form of Bright's disease is present. As a rule the

more familiar symptoms of iodism are not produced when the skin is affected.

DIAGNOSIS.—As might be expected, the diagnosis of drug eruptions is by no means easy. But in spite of their simulation of other diseases, there is usually something which arouses suspicion that the diagnosis of the case is not such plain sailing as at first appears. Thus, the distribution of the erythematous and urticarial rashes is usually more widespread than that of the diseases they simulate. For instance, the copaiba rash shows a wealth of erythema on the limbs and abdomen, rarely seen naturally, while the eruption of antipyrine is more diffuse than that of measles. The acneiform rash of bromide and iodide is much more widespread than acne itself, while, on the contrary, the gummatoid lesions occasionally produced by iodide are less often multiple than the true gumma. Suspicion once aroused, investigation will do the rest, and, as a rule, the rapid subsidence of the eruption on the stoppage of the drug confirms the diagnosis.

DERMATITIS AUTOPHYTICA¹

(αὐτός—self; φέειν—to produce)

(*Artefacta*, or *Factitia*)

Another and a most important form of traumatic inflammation is the eruption intentionally produced by malingerers or hysterical girls. The particular irritant of course varies. Schoolboys are generally aware that the “fox’s pinch” or “Turkish nip” can be produced by moistening the finger with saliva and steadily rubbing one spot on the right hand, and thus freedom secured from the writing class for a few days! Nitric acid is commonly used by the hysterical, while carbolic acid, tartar emetic, etc., are more or less popular. Some even use burning matches. The lesions produced are always more or less “kenspeckle.”² The full effect of the irritant is evident

¹ This is the first time I have been guilty of adding to dermatological nomenclature. The criticism aroused by my use of the word “*artefacta*” in a communication referred to later led me to enquire thoroughly into the matter, and these enquiries have resulted in this new designation.

² There is no English word for “kenspeckle.” Jamieson translates it, “Having so singular an appearance as to be easily recognised.”



DERMATITIS AUTOPHYTICA

right up to the border of the patch; there is not the gradual fading seen in natural disease. The lesions (and this is a very important fact) are almost invariably within reach of the right hand. Cunning as such patients are, this little circumstance usually escapes them, and is often the clue which leads to their detection.

If this self-infliction is suspected, the patient should be carefully watched, and the part so dressed that any tampering with the dressing is at once detected; indeed, the physician must become for such cases a very "Sherlock Holmes."

Rank, education, intelligence, can none of them exclude the possibility of self-infliction, and the greatest tact must be exercised in all the investigations, so as to avoid complications. It is no doubt in accordance with human nature that the physician should stand by his own patient, but the number of cases shown to Dermatological Societies, where the exhibitor is in a minority of one against the self-infliction theory, is very remarkable, and should be remembered in every doubtful case. The accompanying Plate is from a case which I have described at length in the *British Medical Journal*. This patient succeeded in deceiving her very capable doctor and his partner for six months, and she successfully concealed for three weeks in my ward the supply of carbolic acid with which the lesions were produced, although we were on the hunt for it during the whole of that period.

TREATMENT.—All the traumatic inflammations usually disappear rapidly when the cause is removed. Naturally, the time required depends on the extent, depth, and severity of the effect. Thus the X-rays often produce an ulcer which takes months to heal, while ordinary sunburn disappears in a day or two. The treatment is of the simplest nature, and is to be conducted on general principles. In sunburn a very useful application is Pick's linimentum exsiccans (p. 24). If the dermatitis is severe it must be treated by the application of some soothing ointment (lead plaster and vaseline, pts. æq.) or of starch poultices.

NEUROTIC INFLAMMATIONS

The diseases grouped under this heading are admittedly somewhat difficult to place. In some we have grounds for sus-

pecting a toxæmic cause, while others show relationships to the infective inflammations, to which Unna considers it probable that they all belong. Nevertheless, some influence seems to be at work only attributed *faute de mieux* to the nervous system, which seems to justify at present their classification as a separate group. I have followed British custom in placing pemphigus along with hydroa, instead of among the infective inflammations where Unna puts it.

PRURIGO

(*Prurire—to itch*)

As already indicated, this disease must be very clearly distinguished from pruritus. In addition to itching, it is characterised by definite lesions in the skin. The cases may be divided into two classes, prurigo mitis and prurigo gravis, with certain features, particularly the itching, in common, but with certain distinct differences.

The first variety, which was described by Willan, usually commences in adults. Tiny papules appear, especially on the extensor surfaces of the limbs, more rarely on the trunk. They may be faintly reddened, but are usually of the same colour as the skin. Owing to the patient's scratching they are very frequently surmounted by a tiny scab. The spots may to a certain extent run together, but the surface always remains dry. The disease is fortunately rare, as the prognosis is unfortunately grave, the disease lasting in spite of treatment for years.

Prurigo gravis, or the true prurigo of Hebra, is an affection which commences in infancy, increases during adolescence, and lasts for life. In some respects it closely resembles the previous disease, and has at first the same distribution, but the papules are much more numerous, a fact which is more perceptible to the touch than to the eye. If the hand be passed over the extensor surfaces of the limbs, a sensation as of stroking a nutmeg grater is conveyed to the observer. The glands draining the affected regions are always enlarged. This is most marked in the femoral region, where the mass of en-

larged glands usually stands out very prominently. In a fully developed case the patient is anæmic, the skin is dry and pigmented, as in all chronic itching diseases, and the amount of subcutaneous fat is notably diminished. The flexures of the joints are almost invariably spared, though, if there is a great deal of scratching, there may be some super-added dermatitis in this situation.

It was long held that this disease did not occur in this country. The fact is that its relation to urticaria was so generally recognised here, that its identity with the prurigo of Continental writers was overlooked. It begins in childhood as urticaria, and the earlier stages are those of urticaria papulosa (*q.v.*). If that disease is not cured, it develops into prurigo.

When once the disease is fully established the prognosis is very bad. While great amelioration may take place, cure is almost unknown, and this fact should stimulate the efforts of the physician in his management of obstinate cases of urticaria in children.

When the lesions are examined microscopically, the connection with urticaria is evident. There is œdema of the cutis, and an increase in the cells around the vessels. There are in addition morbid changes in some of the epithelial cells, analogous to those of early vesicle formation, but the process is arrested, the vesicles dry up and form the little characteristic papule.

TREATMENT.—For the early urticarial cases see Urticaria. For the fully developed cases, prolonged bathing, generous diet, with a predominance of carbohydrates,¹ cod-liver oil, and rest in bed, are all important; as local applications, soft soap, tar, salicylic acid, sulphur, or β -naphthol ointments are of some value. Regular injections of pilocarpine are often followed by considerable improvement. Epicarin was strongly recommended by Kaposi, and I have prescribed it as a 10 per cent. ointment with benefit.

Under the heading of "Summer Prurigo" or summer eruption Hutchinson describes a variety of dermatitis apparently

¹ I have great faith in pease brose as an article of diet in these cases. As far back as the time of Daniel pulse was recognised as favourably influencing the condition of the skin.

due to the actinic rays of light. It occurs on the exposed parts of the body, the face, arms, and possibly the legs. Usually of a papular form, the lesions may become infected with organisms, and almost any form of dermatitis may develop. It is commonest in girls, and occurs each year as the sun's rays gain in strength, disappearing, or nearly so, in autumn, to reappear the following spring. The only treatment of any value is the application of some colour preparation to protect the sensitive skin. This application may either be an ointment, a paint, or a thick brown veil. Like all diseases brought about by the effects of light, it tends to disappear as adult life is entered upon.

HYDROA

(ὕδωρ—*water*)

The term hydroa is an ancient one revived. Its presence in the name of a disease indicates that the eruption is bullous or vesicular.

Dermatitis herpetiformis.—The typical member of this group is the disease known as dermatitis herpetiformis, or Duhring's disease. Unna calls it hydroa mitis or gravis. Judging by one's experience in Edinburgh, the disease is by no means rare. It is certainly more common in men, and no class is exempt from its attacks. It is a chronic affection of the skin, characterised by regularly recurring, widespread, itching eruptions, the characters of which vary greatly. Sometimes they are erythematous, sometimes vesicular, sometimes bullous, and sometimes erythemato-bullous; and they may vary at different periods in the same patient. The eruptions, whatever be their natures, come out in groups somewhat suddenly, and they have a distinct symmetrical tendency. The skin over the scapular regions, the sacrum, and the elbows is usually specially affected. Although the lesions often look sore enough, the patient's great complaint is itching, and he will tear open vesicles and score his nails through erythematous patches, in the endeavour to get relief from this distressing symptom. It is worthy of note that this scratching, which as a rule makes

itching worse, in this disease often relieves it. The little vesicles are rather deeper in the skin than one would gather from their clinical appearance, and while it cannot be said that they actually leave scars, traces of their existence persist for a considerable time. When a section is examined under the microscope the reason of this is evident. The outer wall of the vesicle is practically the entire epidermis (Fig. 11), and, that being destroyed, the fact that the result resembles a scar is not surprising. Most chronic itching skin diseases are accom-

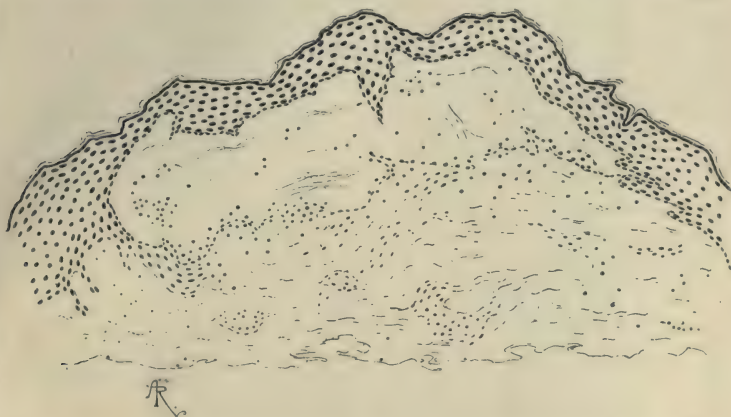


FIG. 11.—Dermatitis herpetiformis. Cover of vesicle is practically the entire epithelial layer, in the vesicle are threads of coagulated fibrin and a few leucocytes. The vessels beneath are sheathed with exudation cells.

panied by some pigmentation. In this disease it is very marked; often in the form of little rings surrounding the site of each bygone vesicle.

ETIOLOGY.—Very little, and nothing definite is known as to its cause. It often occurs in those who are worn out with work, but it appears also in working men whose anxieties are few. The sudden, symmetrical development of the crops of eruption suggests that it may in some way be dependent on nerve influence, but no definite lesions have been found in any case. Whether the disease is due to the direct influence of the nervous system, or to some poison operating through the

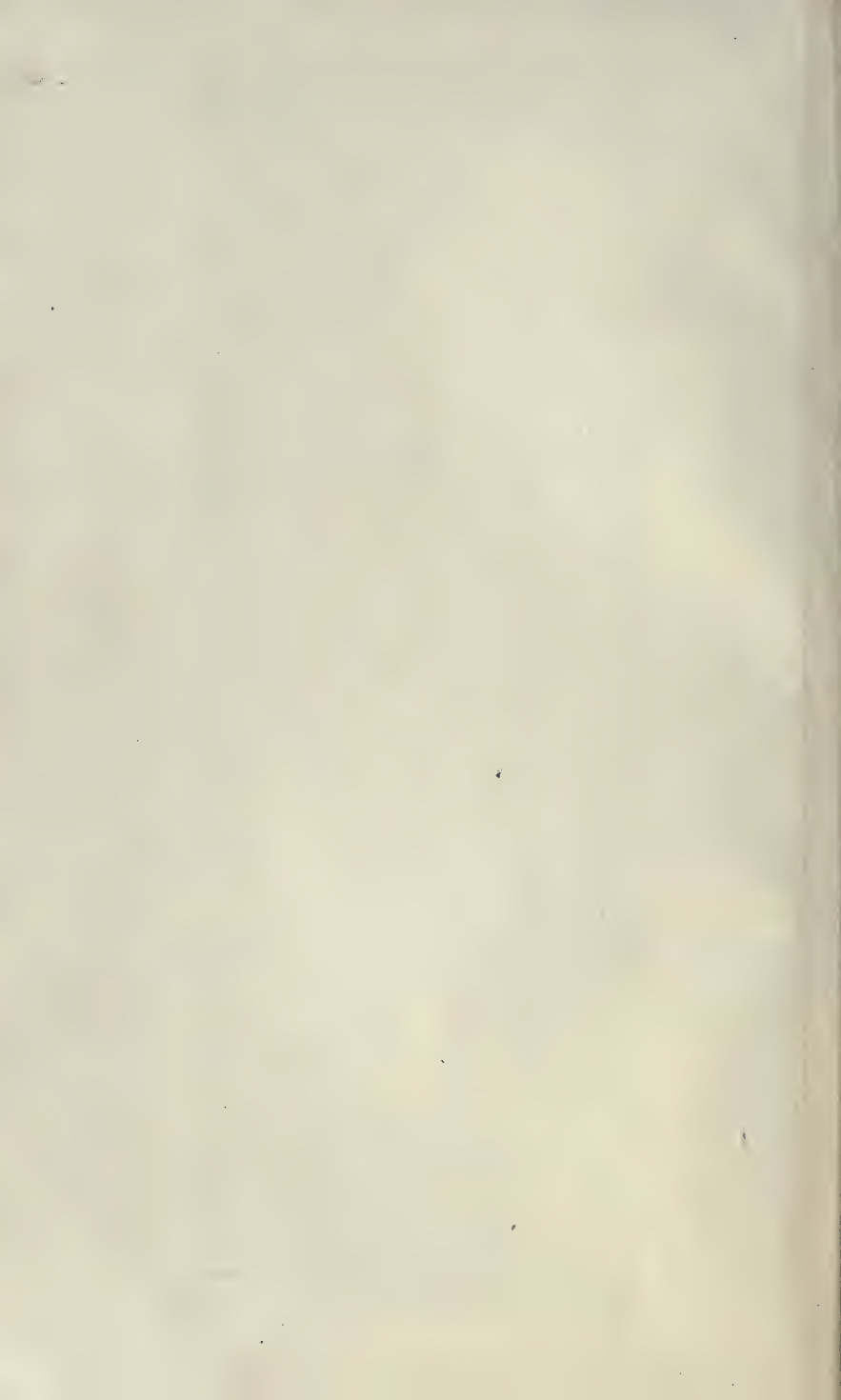
vessels, remains unknown, although the latter seems the more probable, and the eosinophilia, which in my experience is invariably present, supports this view. Some observers lay stress on the presence of Indicanuria. This, though usually present, is by no means characteristic, for it is an occasional or invariable accompaniment of other skin diseases.

DIAGNOSIS.—It is not easy to diagnose this disease at the first sight of a patient. It is probably most frequently confounded with pemphigus; and, indeed, some eminent observers deny that there is any real distinction between the two diseases. The fact is, pemphigus is exceedingly difficult to define, and some apply the term more loosely than others. The following points for diagnosis may be indicated. In pemphigus the eruption always follows the bullous type, and the bulla is usually larger, and arises *on previously unaffected skin*. In dermatitis herpetiformis, though it varies in size and may sometimes be large, the bulla is usually small and is surrounded by an erythematous halo; or a group of bullæ arise on an erythematous patch. In moderate cases of both diseases there is comparatively little affection of the general health. In severe cases of pemphigus the patient is generally seriously ill; in severe cases of dermatitis herpetiformis usually astonishingly well. In doubtful cases information may be obtained from an examination of the blood, which in cases of true dermatitis herpetiformis always shows marked eosinophilia. From erythema multiforme it is distinguished by the intensity of the itching, which indeed is more severe than in almost any other disease, and by the more constant occurrence of bullæ and vesicles, by its usually symmetrical tendency and by the ringed pigmentation referred to above. Vesicles and bullæ do occur in erythema, but more exceptionally and usually later in the career of each spot. But it must be admitted that these remarks apply to the typical forms, and that one finds cases almost insensibly graded all the way from erythema multiforme to pemphigus.

PROGNOSIS.—This is good as regards life, if the patient does not commit suicide on account of the mental disturbance brought about by the itching, but with regard to a speedy cure it is most undeniably bad. Cases last almost always for



DERMATITIS HERPETIFORMIS.



a year or two, and sometimes for a considerable number of years. But the hope of ultimate recovery may generally be extended to the patient.

TREATMENT. — The prolonged course in itself strikingly indicates the difficulty of treatment and its want of success. Three things are useful—*First* and most important is *Rest*, and freedom from work and worry. A patient who has suffered from the disease for perhaps three years will very probably be quite free from his eruption after a three weeks' stay in hospital under very little specific treatment. In the better classes a visit to Harrogate or to some rustic spot, with or without special baths, will in most cases be followed by the same satisfactory result. But when the patient returns to his work the disease sooner or later breaks out in all its former vigour. The longer the rest, however, the better is the chance of a considerable period of freedom.

The *second* remedy is *arsenic*. As one who is not in the habit of prescribing this drug very freely, my testimony to its value in this disease is the more valuable. I have seen cases which improved steadily though slowly under its use, instantly relapse on a stoppage of the drug, and I think it should be used in all cases otherwise suitable. It should be given judiciously (*vide* p. 14). The routine practice of giving 5 minims of Fowler's solution three times a day, and appraising the value of the remedy from the results, is not fair either to the drug or to the patient.

It should be kept in mind that malignant growths have often been noted to develop in persons who have taken arsenic for several years, and I record here without comment the fact that one of my patients, who had taken arsenic off and on for six or seven years for this disease, ultimately succumbed to cancer of the stomach.

The *third* remedy is one which certainly would not suggest itself as a likely one in the disease, but *sulphur ointment*, first recommended by Prof. Duhring, is nevertheless of undeniable value. It is to be applied freely, and rubbed well in; in fact, the patient is treated almost as if he had scabies. The mechanical rubbing ruptures the vesicles, and this alone wonderfully relieves the itching, a fact which patients usually

find out for themselves; while the sulphur seems to have some mysteriously beneficial influence on the disease.

I have given a thorough trial to James C. Johnston's recommendation of flushing in this disease. He says that patients are often conscious of an impending fresh outbreak, and that a dose of calomel, followed by the daily drinking of several quarts of water, will diminish the severity, or even avert the attack. I have not found patients who could prophesy their attacks as his can, but several of mine have greatly benefited after cultivating the habit of drinking large quantities of water. This observation supports, of course, the toxic theory of the disease, and partly explains the benefits often experienced by such patients from a visit to some watering-place.

As is to be expected, in such a chronic disease, very many other remedies are occasionally used. Unna applies ichthyol externally and gives it internally. Carbolic oil is recommended by Morris, while tar, sublimate, indeed all those remedies which relieve itching, are often applied externally. Brocq gives atropine, and Arning salicylate of soda, while others give belladonna, nux vomica, quinine, ergot, etc. Of these I believe quinine and nux vomica to be the most generally useful.

Attention to the general health is, of course, essential; indeed, this may be taken for granted in all references to treatment throughout this book. It stands to reason that if there is any disturbance of the general health, its correction will give the patient a better chance of overcoming any disease.

Hydroa gravidarum, also known as *herpes gestationis*, is a bullous eruption which occurs during pregnancy, and more or less closely resembles Duhring's disease. Indeed, Duhring looks upon it as dermatitis herpetiformis, modified by the pregnant state. In favourable cases the eruption disappears on the termination of the pregnancy, to return should the patient again become pregnant.

Crocker reports a case, where after three attacks related to pregnancy, a fourth was apparently evoked by cancer of the cervix. The Plate opposite is from a photograph kindly lent me by Dr. Arthur Hall, of Sheffield, of a case under



HYDROA GRAVIDARUM.

his care, in which the resemblance to pemphigus is well marked.

Hydroa vacciniforme (æstivale). This is a bullous eruption which appears on the face and ears of children in the situations shown in the annexed illustration. This case was



FIG. 12.—Hydroa vacciniforme.

an exceptional one, for the disease has so marked a preference for the male sex, that some authors label it **H. puerorum**. The lesions are exactly like those of vaccinia; they commence first in spring, last through the summer, and disappear in autumn, to reappear in the following spring. This cycle is repeated year after year, gradually lessening in severity until

adolescence is reached, when the disease finally disappears, leaving, however, behind it a number of fine scars. While the disease in the severe form shown in the illustration is rare, I am satisfied that milder forms are not uncommon, and are usually sheltered under the umbrella of eczema.

In severe cases it may be necessary to take precautions to protect the skin from the actinic rays, which are so evidently responsible for the eruption. In the less marked cases it is perhaps best to explain the nature of the disease to the patient's parents, and tell them not to worry too much about it.

PEMPHIGUS

(πέμφιξ—a blister)

Pemphigus is not an easy disease to define, or to classify. It is placed among the neurotic inflammations because the common type of the disease seems to be most closely related to others of that class; the rarer varieties, though they often present more affinities to the class of the infective inflammations, must defer to the majority.

As the name indicates, pemphigus is a bullous disease. But not all bullous diseases are pemphigus, and great confusion has resulted because diseases in which bullæ are present accidentally have been so described. These will be referred to under diagnosis. The generally recognised varieties are: *pemphigus acutus*, *pemphigus vulgaris* (*chronicus*), *pemphigus foliaceus*, *pemphigus vegetans*. Of these, pemphigus vulgaris may be taken as the type of the disease, and as the variety referred to when the word is used alone. A great many of the cases described as *acute* pemphigus are cases of bullous impetigo contagiosa. In their rapid development and their satisfactory progress under simple local treatment they differ entirely from true pemphigus. Duhring, however, has observed an acute attack pass on to the more familiar chronic form. A special form of pemphigus acutus has been described in new-born infants as *P. neonatorum*. The name is unfortunate, as the majority of such cases are due to infection from case to case, and are examples of bullous impetigo contagiosa, and others are really congenital syphilis

(see Plate facing p. 244). To pemphigus vegetans, Unna altogether denies the right of the name.

When examined microscopically, the bullæ show a close resemblance to those of dermatitis herpetiformis, in that the outer wall of the bulla consists of nearly the whole epithelial layer. The cocci which have been found by Demme and others are found especially in the acute forms, where their presence is easily understood. Whatever be the cause of pemphigus, the



FIG. 13.—Pemphigus vulgaris chronicus.

weight of evidence is against an external cause. The lesions which one finds in the internal organs of patients dying of pemphigus are those of a generalised toxæmia, the nervous system being specially liable to degenerative changes.

Pemphigus vulgaris chronicus is characterised by the appearance on apparently healthy or very slightly reddened skin of blebs or bullæ, varying in size from a pea to a hen's egg. They may appear on any part of the surface, are at first clear and tense, with no red halo; later they become opaque, flaccid, and surrounded by an inflammatory ring. If the dilated vessels

rupture, blood is added to the contents of the bulla (pemphigus hæmorrhagicus). As a rule the bullæ rupture and their contents are discharged. In any case healing takes place rapidly without scarring, though usually some redness or discoloration remains. Fresh crops, however, continue to appear, and prolong the disease indefinitely.

Figure 13, for which I am indebted to Dr. James Galloway, is from a typical, somewhat severe case. Bullæ in all stages are seen, some recently developed, others flaccid, and other ruptured lesions are in process of scabbing.

PROGNOSIS.—Some few cases end comparatively soon and favourably. Others go on for months or years, gradually getting worse, and eventually as gradually getting better, until at last the patient is freed from his ailment. A certain proportion of cases develop into the foliaceous type; many terminate fatally. The prognosis is better in children than in adults, but it should always be guarded, and in elderly patients it is always grave. Old people attacked by pemphigus are very likely to die. Sometimes death is due to exhaustion, but more often it is to be ascribed to the occurrence of the lesions in organs more necessary to life than the skin, such as the intestine, bronchial tubes, etc., while it is frequently the result of some intercurrent disease.

DIAGNOSIS.—Those who have not much experience in the diseases of the skin, are undoubtedly far too ready to call a case pemphigus. The appearance of bullæ on the skin is not sufficient. Bullæ may develop accidentally in very many diseases, especially in urticaria, erythema multiforme and dermatitis herpetiformis; and even in such common diseases as scabies and impetigo, very well-marked bullæ may be seen. Drug eruptions, too, may take a bullous form, especially those due to the iodides or bromides. They are, however, always comparatively easy to distinguish; in all of them erythema or some other lesion *precedes the development of bullæ*. In cases of true pemphigus there is also usually marked eosinophilia. There is, however, another class of cases which may, for lack of a better name, be distinguished as *septic* pemphigus, where the bullæ develop as in the true disease on apparently normal skin. The illustration (Fig. 14, for which I am indebted to

my successor in Dalston, Dr. Doughty), shows a bullous rash in the neighbourhood of a tuberculous sinus. In such cases, some poison, almost certainly microbic in origin, is evidently responsible for the appearance of the bullæ. Eruptions of this description sometimes spread over a considerable extent of surface, but are not to be regarded as cases of pemphigus vulgaris, though they are probably nearly related to the so-called pemphigus acutus.

TREATMENT.—The fact that the disease appears on appar-



FIG. 14.—Septic pemphigoid eruption.

ently healthy skin should suffice to indicate that external treatment is of comparatively little value.

Local treatment is indeed confined to simple surgical procedures. The bullæ should be opened and some simple dressing applied to promote their rapid healing. Ointments, and dressings of that nature, are to be preferred, as they act as a protective to the denuded surfaces, and we commonly use an ointment of five grains of the oxychloride of bismuth to the ounce of vaseline.

General treatment is evidently indicated, but unfortunately the remedies used are distinguished more by their number than by their efficiency.

Hutchinson says that arsenic is our *sheet anchor* in treatment. While probably the most trustworthy of a number of very unsatisfactory remedies, it very often fails us, and we are driven on the shore of vague generalities about keeping up the general health, strengthening the system, etc.

Probably the best thing which can be done for a well-established case of pemphigus, is to advise change of air and a complete rest from work and worry.

Arsenic should be given judiciously in gradually increasing doses, until we are satisfied that the limit of tolerance has been reached, or that no benefit can be looked for. In such cases a trial may be given to other tonics; strychnine, quinine, or perchloride of mercury will be found useful in some instances, and ichthyol may also be tried. No miracle must be expected: these drugs must have the same patient, prolonged trial as arsenic, for time is in all cases of pemphigus the great remedy.

Pemphigus foliaceus.—In most cases this develops from pemphigus vulgaris. I have seen it develop in a case which at one period was undoubtedly dermatitis herpetiformis, and sometimes it arises *de novo*. The eruption generally affects the whole surface of the body, and the presence of large amounts of decomposing excretion gives rise to a peculiar sickly odour. The bullæ vary in size, but are never tense, and indeed it is often difficult to recognise that they are bullæ. The contents are soon discharged, and their outer walls form large flakes upon the skin which, stained with blood, have a certain resemblance to withered leaves, hence the name *foliaceus* (leaf-like). The annexed Plate gives an admirable reproduction of the condition. The burst bullæ with the leafy fringes at the edges are well shown. Where the bullæ have been smaller, and where the skin beneath is deep red, the appearance produced has been compared to flaky pie-crust.

DIAGNOSIS.—At first sight the disease looks like a moist eczema; but eczema is practically never universal, the characteristic odour is absent, and careful inspection will result in the discovery of some of the large flaccid bullæ which are characteristic of the disease. A moderate eosinophilia is usually present: indicanuria is also frequent.



PEMPHIGUS FOLIACEUS.



PROGNOSIS AND TREATMENT.—The prognosis is undeniably bad, and yet the disease is by no means rapidly fatal. Though the patients look bad enough they are not really very seriously ill, though at times, from septic absorption, the temperature runs high.

Since I wrote the last edition of this book I have had several cases of this rare disease. Some of them have been published by Dr. Low, in the *British Journal of Dermatology*, and his paper may be referred to for fuller particulars. Although, as one has said, the prognosis is bad, none of these cases have terminated fatally, and I think I may say that all of them are not so bad as they once were. I thought that two of the patients benefited from the injection of vaccines prepared from their own discharges, but other patients have shown the same slight improvement without this treatment. One of the patients received, both while under my care and in the Longmore Hospital where she now is, considerable doses of soamin. I cannot say that I can attribute any benefit to its administration, and the patient has become totally blind. The local treatment is the same as in pemphigus chronicus. Permanent baths are of great assistance; in these Unna recommends the admixture of such reagents as will harden the skin (Müller's fluid, picric acid, etc.). Internal remedies have not proved of much avail.

Pemphigus vegetans (*Erythema bullosum vegetans*, Unna).

—In this disease, which is fortunately very rare, the primary lesion is a little red spot, usually in the genital or axillary regions, or in the neighbourhood of the mouth. The spot enlarges, and blebs appear on the surface. These soon dry up into crusts, and then the fungating, condylomatous growths, from which the disease gets its name, develop.

DIAGNOSIS.—The diagnosis from syphilis, which it somewhat resembles, is to be made by the absence of other signs of that disease, and the results of treatment.

It always terminates fatally, and treatment is merely symptomatic.

HERPES

(έρπειν—to creep)

Whatever may have been the original significance of this name, its use to-day suggests two things:—(1) Vesicles; (2) grouping of these. Practically the name is restricted to three diseases—herpes facialis, herpes genitalis, and herpes zoster. The terms herpes iris and herpes tonsurans are usually mentioned either to fix in students' minds the vesicular element in a disease, or else to show how undesirable is their use.

Herpes facialis (*Labialis* was too restricted) must be clearly distinguished from herpes zoster, which may appear on the face, as on any other part.

The first symptoms of facial herpes are a little itching, and a feeling of tension, most commonly on the lips or in their immediate neighbourhood. Then there develops a slightly swollen reddish patch, which in a few hours is covered with vesicles. The patches are usually single, but there may be two or three even at first. When the vesicles have become purulent and are irritated and scratched, secondary lesions may develop. If left alone, the vesicles dry up into scabs; the process is at an end in a week or ten days; and the patient is free until the next almost inevitable attack.

In those subject to it, any derangement of health, often so trivial as to pass unnoticed, is apt to be followed by an outbreak; and more serious ones are almost certain to be so followed. This is the form of herpes which appears in many cases of pneumonia, and which the older physicians regarded as of value in prognosis. Prolonged exposure to the sun is sometimes responsible for an attack. Some cases are said to recur periodically, but in my experience their number is small; most of the so-called periodic cases occur in those exceedingly elastic seasons, spring and autumn. In cases which recur again and again on the same spot, possible sources of reflex irritation, such as carious teeth or some disease of the nasal mucous membrane, should be carefully sought for.

TREATMENT.—Of this I am unfortunately able to speak from prolonged personal experience. When the vesicles have once developed, nothing can be done except to preserve them from

irritation, and, if possible, from rupture. When on the red lips they are of course almost certain to rupture, but are not so apt to become purulent as are those on the skin. Those who from experience are familiar with the earliest signs of an attack, may do a good deal to restrict it to moderate limits. Bathing the part with very hot water, or the application of collodion, will often check further development, so also will the less pleasant application of caustic. In the periodic form, when no definite source of irritation can be detected, much benefit is often derived from this latter treatment. If, at the commencement of each attack, the affected region is painted with arg. nit. (grs. xx), spt. æther. nitrosi (3j), the intervals between the attacks are often increased, and a cure may in time be brought about.

Herpes genitalis (a much better name than *Herpes preputialis*) in many ways closely resembles the preceding disease. It, too, appears after some disturbance, especially after the combined worship of Bacchus and Venus, and it also tends to recur. The method of recurrence, however, is different. While herpes facialis gets quite well, and remains so for indefinite varying periods, herpes genitalis once present breaks out again on the slightest irritation. Attack follows on attack, but once fairly away, it is much less apt to return than the eruption on the face.

DIAGNOSIS.—Herpes genitalis is very apt to be confused with certain venereal affections, and there must be very few who have not at least once found that time has upset their diagnosis.

It most nearly resembles the soft sore, and the points of distinction between the two which in most cases enable one to arrive at a correct diagnosis, are the following:—(1) The lesions (vesicles) are multiple, and appear on a reddened, slightly swollen area of skin. Unfortunately, cases are very rarely seen at this early stage, and the moisture and heat of the part have generally led to the conversion of the vesicles into ulcers. The soft sore is usually at first single. (2) The ulcers are usually cleaner, not so overlaid with pus as is the soft sore. (3) There is more itching and burning than in that condition. (4) The lesions are not auto-inoculable. The presence of Ducrey's bacillus is of course proof of the soft

sore, but failure to demonstrate it can hardly be regarded as the contrary.

The primary lesion of syphilis may also in exceptional cases closely resemble herpes, though in the majority of such cases it is probable that both diseases are present, the herpes developing long before the sclerosis. Many of the distinctions from the soft sore hold for the more serious condition, but in all cases of herpes genitalis it is well for the young practitioner to practise caution and await developments. If he feels quite certain, he may assure the patient that the lesion present is not syphilis: he must not assure him that he has not got syphilis. Were the history in such cases to be depended on, much might of course be learned from it, but the greater one's experience the less is one's faith. Audry very sensibly remarks that every herpes is to be regarded with suspicion which appears for the first time in an adult after coitus.

TREATMENT.—The simple application of powdered boric acid or any other unirritating powder usually suffices. A little salicylic acid (1 to 2 per cent.) is sometimes of value in obstinate cases, and all irritation of the parts must be avoided for at least six weeks after the disappearance of the eruption.

Herpes zoster is the name round which most of the associations of herpes linger. Zoster means a girdle, and was originally applied to the form of herpes which appears first about the middle of the back, and creeps round the chest in the form of a girdle. The popular name "shingles" is derived from the Latin *cingulum*, a girdle. It is, however, not confined to the thorax, but may occur anywhere. It usually commences with pain, or a sensation of burning, after which there appear in succession crops of little vesicles on an erythematous base. Both the patch and the earlier vesicles enlarge for a day or two, while new ones appear in advance of the older spots. The linear distribution is not invariable. Sometimes there is only one, or it may be two patches, and these run a typical course without any successors. The pain preceding such attacks is often exceptionally severe, and as no "zoster" appears, the true nature of the case is often unrecognised. In two cases under my care the single patches were



FIG. 15.—Herpes zoster brachialis.
(Lesion probably in the last cervical and upper dorsal root ganglia).

seated respectively on the chest, and in the external auditory meatus.

The Plates are illustrations of typical attacks of brachial and thoracic zoster. The section (Fig. 16) shows the vesicles in the prickly layer, and their multilocular character. The fact that there is a considerable amount of epidermis below the vesicle explains how such cases heal without scarring. In normal cases the vesicles soon dry up, in a week or ten days the scab separates and the patient has recovered. Such is the course in young people, in whom the affection often runs its course almost painlessly; but in those beyond middle life, not only is the pain at the commencement usually severe, but

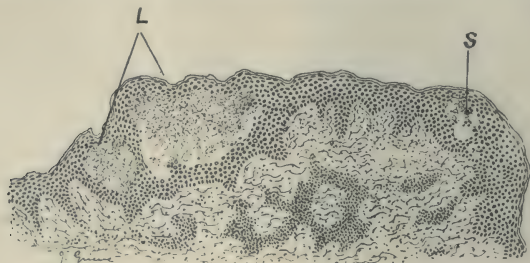


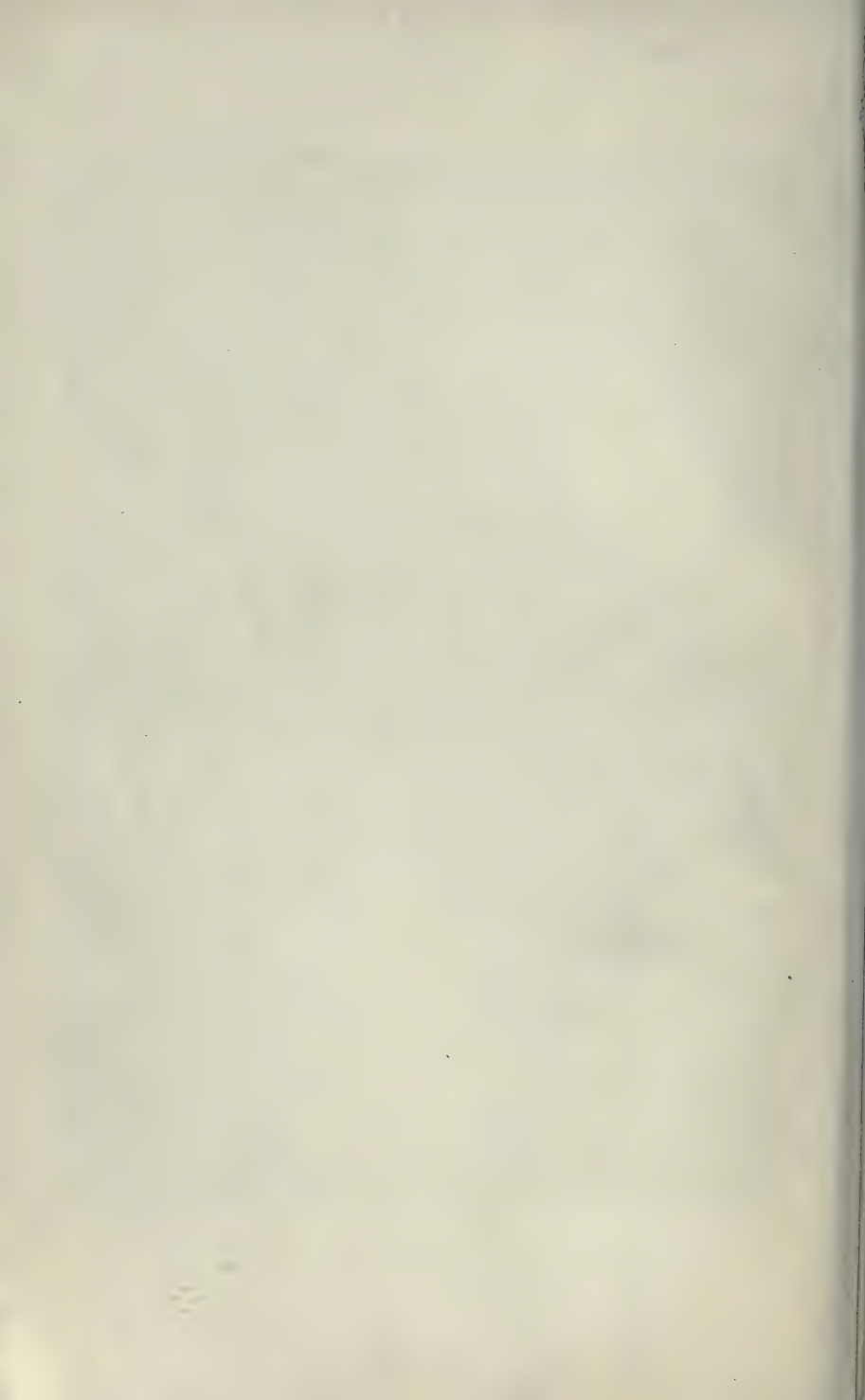
FIG. 16.—H. zoster. Shows large loculated vesicle (L), and a smaller single one (S). Both contain threads of fibrin and a few leucocytes.

it persists in a still severer form after the local manifestation has passed away. Unless the vesicles have become purulent, there is, as a rule, no resultant scarring, except in supra-orbital herpes, where scarring is the rule, and where there is also usually some conjunctivitis and occasionally more serious eye trouble.

ETIOLOGY.—The nature and etiology of the disease have long been a subject of dispute. Before entering on any of the theories, it is well to note certain facts which are almost universally admitted. There is usually some disturbance of the general health a day or so before the eruption appears, with it may be a little elevation of temperature. One attack of the disease almost certainly protects from subsequent ones, and the disease occurs in small epidemics.



HERPES ZOSTER.



Recently much light has been thrown on the nature of herpes by the admirable work of Head. He and Dr. Campbell, of Rainhill, realised that as herpes was not a fatal disease, and therefore could not be studied in connection with ordinary post-mortem examinations, the best plan would be to follow out the cases which occurred in institutions, such as asylums. In every one of nineteen cases, in which death occurred at periods of from three to seven hundred and ninety days after the appearance of the eruption, they found evidence of some lesion in a posterior spinal ganglion. When the eruption appears in the head, the Gasserian or geniculate ganglia are involved.

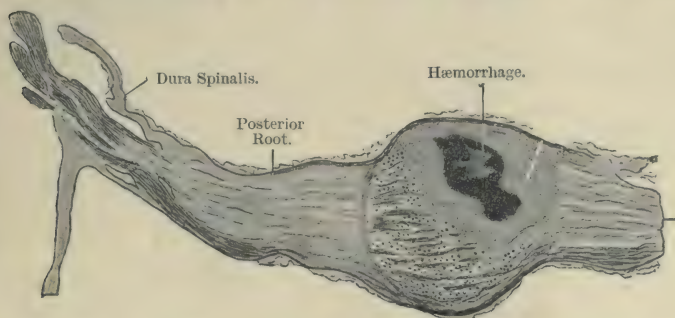


FIG. 17.—Longitudinal section of Twelfth Dorsal Ganglion. Death one hundred and three days after appearance of eruption.

(By permission of Dr. Head.)

Usually this lesion was a hæmorrhage (see Fig. 17), but cancer and injury were also observed. The acute changes consist in an extremely acute inflammation, with the exudation of small round deeply-staining cells, extravasation of blood, destruction of the ganglion cells and fibres, and inflammation of the sheath of the ganglion over the inflamed portion, which is mainly in its dorsal aspect. In the peripheral nerves the changes are, as was to be expected, an acute degeneration, followed by a greater or less amount of secondary sclerosis; the degeneration could be traced to the fine cutaneous twigs in the area of the eruption. Head and Campbell also confirmed the epidemic incidence of the disease, and they point out that the cells in the posterior ganglion are comparable to

those in the anterior horn of the spinal cord, and draw what seems a perfectly fair comparison between herpes and acute anterior poliomyelitis.

The distribution of the eruption depends on the distribution of the fibres passing through this ganglion, and not on

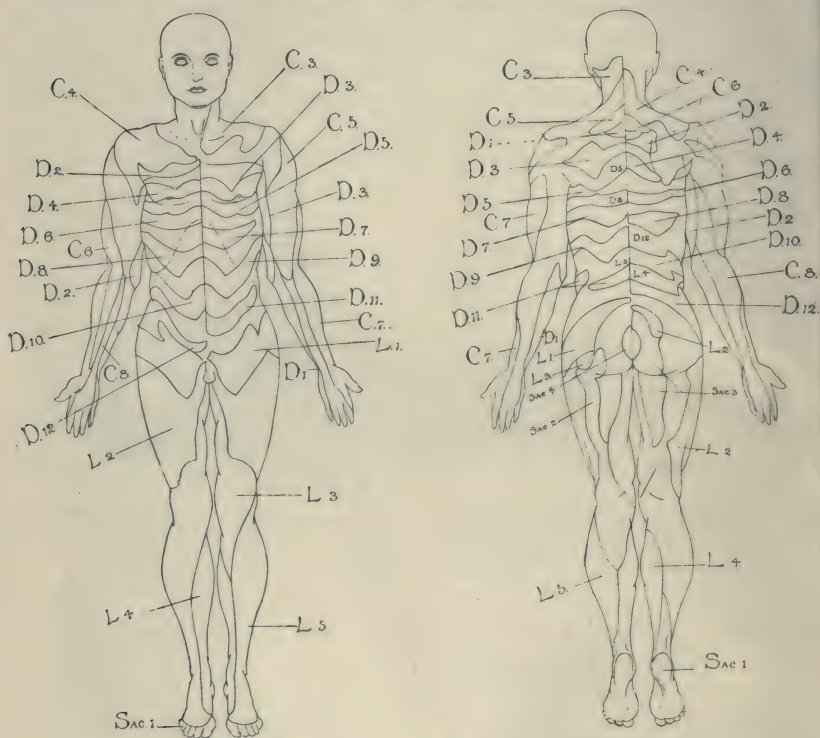


FIG. 18.

that of any particular nerve. With the aid of the annexed diagram of Head's areas one will be able to locate the seat of the lesion in nearly every case of zoster.

Head's conclusions, which seem to be fully supported by his arguments, are that zoster is an acute specific disease of the nervous system, starting with a prodromal period and accompanied by a slight rise of temperature and some *malaise*.

The eruption, which commonly appears on the third or fourth day, may be regarded as comparable to the rash of other fevers.

The result of the examination of fluid obtained by lumbar puncture goes to confirm Head's observations, for it invariably shows marked lymphocytosis, which may last for weeks or months after the eruption has passed away.

It is an interesting observation that patients who have been taking arsenic for a length of time are particularly liable to zoster; indeed this was one of the clues which led to the detection of the Manchester beer poisoning epidemic. Presumably the arsenic, by producing neuritis, lowers the resistance, so that the cause, whatever it may be, finds readier access.

TREATMENT.—As the disease runs a definite course, and has a natural tendency to get well, little active treatment is required. Locally, I believe the best application to be Unna's zinc gelatine, which when painted on the spots sometimes seems to check their further development. Others recommend free application of some harmless powder, cotton-wool, and a bandage. Some advise the application of compresses soaked in an aqueous, alcoholic, or ethereal solution of picric acid, and Russell finds menthol paste useful. The object of all local treatment is simply to prevent the lesions from rupture and contamination by dirt or micro-organisms. The pain is sometimes so severe that hypodermic injections of morphia are required, but usually antipyrine or some similar preparation suffices to make it at least bearable. For the treatment of the persistent neuralgias, which are especially prone to occur in elderly people, a prolonged course of tonics is often requisite. Arsenic, phosphorus, iron, bromide of potassium, etc., all have their advocates; the use of electricity is sometimes followed by relief. Even if there is no neuralgia it is well to exercise for some time a pretty close supervision of the general condition of elderly people who have passed through an attack of zoster. When ulceration has occurred some simple antiseptic ointment should be applied. In supra-orbital herpes, occurring in men, perhaps no special precautions need be adopted; but when the disease occurs in young ladies, efforts should be made to prevent the development of the very considerable scars

which usually follow that variety of the disease. This is best done by removing the scab, as the amount of pressure which it exercises on the tissues beneath determines the depth of the resultant scar. The part should then be kept soft by the free application of ointment, so as to give the granulations every chance to replace the loss of substance. In both sexes the condition of the eye should be carefully attended to.

INFECTIVE INFLAMMATIONS

Strictly speaking, the infectious fevers belong to this class, but since they are not in this country regarded as diseases of the skin, and since, indeed, the skin lesion is in most of them a comparatively unimportant feature, we shall pass them over, and consider only the local infective inflammations of the skin proper.

Among these there are one or two which have the power of generalising, such as anthrax (splenic fever), glanders, and tuberculosis; here we shall consider only their local effects.

The infective inflammations of the skin may be divided into those of the epidermis and those of the corium, with one or other of these as the *main* seat of the eruption. The inflammations of the epidermis may be subdivided according as they affect the surface epithelium, or that of glands and follicles of the skin. Those affecting the surface epidermis, the superficial inflammations or cutaneous catarrhs, may be further subdivided into moist or dry. These terms, while useful clinically, are only relatively distinct, for many catarrhs which are clinically dry are associated with increased moisture of the epidermic cells.

In far too many diseases we are as yet ignorant of the actual infective cause. In some the probable causal relation of a germ to the disease is widely admitted, while there are others which can only be considered infective by analogy. It is not necessary that the cause of a disease must be present at the actual place where signs of irritation are observed microscopically. Parasites of all kinds have the power of exerting their influence at a distance; and be the parasite gross, as in

the case of scabies, or minute as in the case of impetigo, the effects produced by its presence may be found in localities far removed from the actual parasite. Thus, in certain pustular affections of the skin which are clearly inoculable, the cause of the disease will be found in a small colony of germs limited to the apex of a considerable pustule, though the vessels for some distance around show evident signs of disturbance.

INFLAMMATIONS OF THE SURFACE EPIDERMIS

SCABIES

Scabies, commonly called "The Itch," is the most typical of the moist superficial inflammations. The lesions first produced are vesicular, and these may either rupture and discharge fluid, or develop into pustules or even large bullæ. If the irritation be kept up for long, the skin becomes greatly thickened, and fissures are developed. To this severe form the term Norwegian scabies has been applied.

The advantage of placing this disease first of the infective inflammations is that the nature of the processes occurring in the others may be deduced from its well-known phenomena. The *Acarus scabiei*, which is the cause of the disease, is a small insect, just visible to the naked eye, about the size of the perforation of a fine sewing-needle. I have followed the majority in giving an illustration of the acarus, by means of which the exact number of its legs may be seen. Practically it is only necessary to know that the disease is produced by the female, which, after impregnation, excavates oblique tunnels in the horny layer of the skin and lays her eggs as she advances. Schiscka says that in exceptional instances the acarus reaches the prickle layer, in which case the resultant inflammation is much greater than usual. The irritation produced gives rise to itching and to the exudation of a certain amount of fluid, clinically evident as the vesicle. In the neighbourhood

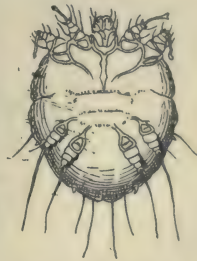


FIG. 19.—*Acarus scabiei*. Female.
Ventral surface.
($\times 75$.)

of this the acarus may frequently be found. On the skin of those whose attention to cleanliness is not great the tunnel which the insect excavates is seen as a black line, often, though by no means invariably, zigzag. The favourite seats for its ravages are the thin skin on the webs of the fingers (see Plate), the wrists, the anterior borders of the axillæ, the genitals in males, and the areolæ of the nipples in females. Its general distribution is determined by the patient, for the eruption is



FIG. 20.—Section from a case of Scabies (diagrammatic). Shows position of the itch mite, the eggs in the oblique burrow, and in other parts of the horny layer; sections of acari and fecal masses (the black granules). There is some cellular infiltration of the tissues beneath.

most marked in those parts which he can most easily scratch. Thus it is only exceptionally found on the back, while the lesions are usually numerous on the abdomen. It is important to note that the face is very rarely affected unless some complication, *e.g.* impetigo, be superadded. This is often a valuable assistance in diagnosis in the case of a widespread, itching eruption, where burrows cannot be identified. The distribution just mentioned refers to the disease as seen in the adult patients who attend hospitals and dispensaries. In the better classes, where the hands are more frequently washed, the



SCABIES.

anterior axillary borders are often the only sites of any evident lesion; while in children the feet are very often as much affected as the hands, and, as in most diseases in children, the tendency of the vesicles to become pustular is very marked.

The patient's great complaint is itching, always most troublesome at night. The removal of the clothes before the patient gets into bed seems to be to the acari an intimation that the time for their nightly prowling has arrived. In cases complicated by impetigo and abscesses the symptoms of these often conceal those of the original disease.

Those whose opportunities of seeing the disease have been considerable have, as a rule, little difficulty in diagnosing scabies; but the statement that it is always possible to trace the acarus to its lair does not accord with my experience, and the diagnosis has often to be made simply from the account of the itching (most marked at night), the history of the case, and the distribution of the eruption. In the majority of cases no doubt it is not difficult, and in some cases it is most important to be able to convince the enraged and sceptical patient by demonstrating to him under the microscope the cause of his disease. For this purpose a typical burrow with a recent vesicle at the end is selected, and a fine needle is passed along the burrow till it penetrates the vesicle. By raising the needle the whole tunnel is opened up, and the acarus may frequently be discovered clinging to the end of the needle. It may then be mounted on a slide in glycerine (not liquor potassæ) and demonstrated under the microscope.

TREATMENT.—In this respect also scabies is an excellent introduction to the infective inflammations of the skin. We know that the disease is produced by a definite cause; our object is to destroy that cause, and, having done so, to allow the patient to recover. Were we as familiar with the causes of all infective inflammations, and had we as sure a remedy for their destruction as we have for scabies in sulphur, the treatment of the diseases of the skin would be very much simplified. The method of curing scabies which is followed in Paris and in some of the London hospitals is on the “while-you-wait” system. The patient is immersed in a bath con-

taining 3 ounces of sulphide of potash to 30 gallons of water. After soaking for some time in the bath, he is thoroughly scrubbed with soft soap and a strong nail brush, special attention being devoted to the more affected parts. After this he reclines for a further period in the bath. On coming out of it he is rough-dried, rubbed with sulphur ointment, puts on the clothes which have in the meantime been disinfected, and is dismissed cured.

A simple method of treatment is to order the patient to have a hot bath in which he soaks for half an hour, and with a soft nail brush scrubs the most affected parts. On coming out he should dry himself, seat himself before the fire, and rub sulphur ointment thoroughly in all over. He should then put on flannel garments (night-dress or pyjamas). The rubbing should be repeated on five subsequent occasions at intervals of twelve hours. The skin is thus kept in a constant atmosphere of sulphur, and the acari old and young are destroyed. On the morning following the last application the patient should take another bath, put on fresh clothes, and, if the directions have been properly carried out, he may be considered cured. A certain amount of irritation, due to the action of the sulphur, may persist for a day or two, and too often, contrary to instructions, the patient continues to use the ointment; the dermatitis is increased, this increases the itching, the patient re-applies the ointment still more vigorously, and his last state of sulphur dermatitis is worse than his first of scabies.

One further caution—scabies is spread by the hands, but nevertheless treatment of these is too often neglected. True, the palms of the hands are well anointed in rubbing the other parts, but the backs and the webs of the fingers very often escape treatment. It is well therefore to caution the patient about this, and instruct him to wear at night woollen gloves soaked with the ointment.

In the cleanly, such active measures are rarely required. A hot bath every night and the energetic use of sulphur soap, the lather being rubbed into the affected parts till dry, will generally bring about a cure in three or four days.

Sherwell, of Brooklyn, uses sulphur as follows:—The patient

has the usual bath, and before he goes to bed a teaspoonful of flowers of sulphur is deposited between the sheets, by the shaking of which the sulphur is distributed all over the bed and comes in contact with the acari when they are most approachable. Sherwell strongly recommends this treatment, and says it is more useful than any other he has tried.

Major Porter has recently published the results of his experience with balsam of Peru, a substance which has for some time been occasionally recommended in the treatment of scabies. The patients are simply painted all over with the balsam, and Porter finds that the average duration of stay in hospital has been reduced from fifteen to rather less than three days, while the number of cases in the troops under his charge has diminished by about one-half. It must, however, be kept in mind that this method has been followed by the appearance of albuminuria.

There are at least two classes of patients who need to be specially considered in treatment. In children the irritation is usually severe, and pustulation is a very prominent feature. For them, sulphur ointment, if applied, must be diluted. If there are many so-called "eczematous" complications, the substitution for sulphur of Kaposi's β -naphthol ointment, 40 grs. to the ounce, has the advantage that it calms these complications instead of aggravating them as sulphur often does. In the case of adults, where the eczematous complications are very marked, the same plan may be followed, always bearing in mind that, harmless though β -naphthol usually is, cases of poisoning have occasionally resulted from its use. Epicarin in a 10 per cent. ointment is also useful, but it is not so absolutely innocuous as it is said to be.

Another class is made up of those whom one does not wish to inform that they are suffering from such a vulgar disease as *itch*. If this fact must be concealed, sulphur ointment must be avoided, for it practically carries its diagnosis with it. Useful substitutes for it are stavesacre, styrax, and balsam of Peru, with the caution already alluded to.

Some prefer to simple sulphur ointment, applications in which certain adjuvants are present, namely, prepared chalk, which aids mechanically in the opening up of the burrows,

and soft soap, which helps the penetration of the sulphur along them. Useful formulæ are—

R Sulphur Præcip.	. . . . .	3ij
Cretæ Præp.	. . . . .	3iij
Saponis mollis et Vaselini	. . . . .	āā 3j
R Sulph. Præcip.	}	. . . . . āā 3ss
Ol. Fagi		
Saponis Viridis	}	. . . . . āā 3j
Adipis		
Cretæ Præp.	. . . . .	3j
(Wilkinson's Ointment)		
R Styracis	}	. . . . . āā 3ij
Ol. Olivæ		
R Bals. Peru	}	. . . . . āā 3j
Sp. Vini		

Many of the lower animals also suffer from itch, but the mite which causes their disease differs from that which attacks the human subject, and although occasionally a human being is attacked by animal itch, it does not spread as our own variety does. In some animals itch is a very serious disease, and may even produce a fatal result.

ACARODERMATITIS URTICARIOIDES

(GRAIN ITCH, BARLEY ITCH, STRAW ITCH)

During the last ten years numerous outbreaks of this disease have been noted in America, and recently the disease has appeared in this country.

As the name suggests, the disease is due to a minute itch mite, the *Pediculoides ventricosus*, whose connection with grain and straw is of some economic interest, for it destroys the larvæ of the wheat-straw worm, and other parasites of grain. It is of course found in those brought into contact with these substances in their work, or who happen to sleep on infected straw mattresses.

It does not burrow in the skin as the *acarus scabiei* does, but, along with hundreds of its fellows, attacks at once the skin of those who are brought into contact with the infected

straw or grain. The eruption is usually urticarial in form, but it may resemble erythema multiforme, and in other cases the development of a vesicle at the site of attack results in a varicelliform eruption. This eruption most commonly appears on the trunk, and the hands and face are usually spared. The itching is intolerable; it becomes worse at night and seriously interferes with sleep. The temperature may be elevated two or three degrees. As a rule the itching subsides in from twelve to thirty-six hours—the mites do not breed on the human skin—and the eruption disappears in a week or ten days.

Schamberg, from whose excellent account the above is taken, says that an ointment containing grs. 30 of β -naphthol and grs. 40 of sulphur in an ounce of zinc ointment is specially efficacious, but even if no treatment is adopted the acari soon die and the patient recovers.

CHEIROPOMPHOLYX

(POMPHOLYX; DYSIDROSIS)

($\chi\epsilon\iota\rho$ —*the hand*; $\pi\omicron\mu\phi\acute{o}\lambda\upsilon\chi$ —*a bubble*; $\delta\acute{\upsilon}\varsigma$ —*difficult*;
ἰδρῶς—*the sweat*)

This is one of the diseases salvaged by Tilbury Fox from the rubbish-heap of eczema. As the name signifies, it consists of an eruption of small vesicles upon the hands (more rarely on the feet also). It is almost invariably symmetrical. There is usually a certain amount of burning and itching. The small vesicles are embedded in the skin, projecting very little above it. They are especially disturbed along the borders of the fingers, and have a peculiar, greyish, translucent appearance, which is aptly compared to boiled sago grains (see illustration). After a few days' existence the vesicles dry up and are gradually thrown off with the exfoliating skin. They may rupture accidentally, but they do not usually do so. The disease is found most frequently in those whose hands sweat freely, and is especially common in young women, although not restricted to any age or sex. When an attack has once made its appearance, the patient is liable to a recurrence on

any slight disturbance of health. It is, indeed, related of one of the investigators of the disease on his own skin, that, running short of material, he spent a riotous evening with some students in a German beer garden, and was rewarded by what he desired—the appearance of a fresh eruption.

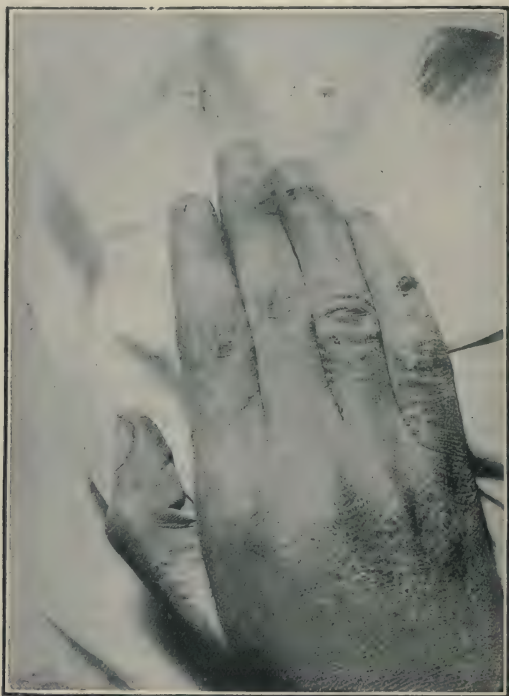


FIG. 21.—Cheiropompholyx. Shows the vesicles between the fingers, on the side of the thumb, and a few on the back of the hand.

Although the description already given applies to the great majority of cases, there are others in which the disease spreads to the back of the hand, and even up the arm. The vesicles are then larger, and, the skin being thinner, they commonly rupture and exude a little fluid. The fact that they do not rupture on the fingers is not due so much to any special peculiarity of the vesicles as to the character of the

skin in this situation. When, for instance, eczema develops on the palm of the hand, there are very rarely any vesicles visible at all. The fluid spreads itself through the layers of the skin, and the result is the scaling of large masses. On the back of the hand, on the contrary, the vesicles very rapidly form and readily rupture; the skin at the sides of the fingers being intermediate in thickness between these two, prevents to some extent the development of the vesicles and usually also their rupture.

ETIOLOGY.—Two views are held as to the nature of cheiropompholyx, one that the disease is neurotic in origin,

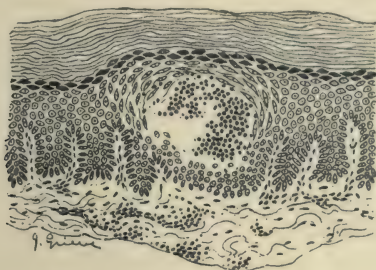


FIG. 22.—Cheiropompholyx. Vesicle in the prickly layer, the epithelial cells pushed aside, and a few leucocytes in the cavity. From a section by Winklereid Williams. ($\times 50$.)

the other that it is of local origin, in all probability due to micro-organisms. While it is not yet possible definitely to decide between the two, it would appear that hysteria and neuroses do not exclude the possibility of infective agents, and in all probability the latter theory is the correct one. Unna has described a bacillus found in all the cases he has investigated. It grows in the upper border of the vesicle, just where, in carefully prepared sections, a minute, funnel-shaped opening may usually be found.

HISTOLOGY.—It is now definitely accepted that the vesicle is inflammatory in origin, and that Fox was wrong in supposing that it was an accumulation of sweat caused by the blocking of the pore. Fox's clinical instinct was, however, not at fault, for the disease is much more common in those who suffer from

profuse sweating of the parts. Sections show the inflammatory character distinctly, and serial sections that the sweat channel is pressed to one side by the vesicle.

PROGNOSIS.—As regards any individual attack the prognosis is good, but the tendency to recurrence is so great that patients should always be warned of its likelihood.

TREATMENT.—Since there are two theories, so there are also two lines of treatment. Those who believe in the neurotic origin of the disease largely neglect local treatment, and administer tonics to their patients. Under this treatment they recover, as do patients who receive no treatment at all. The local treatment, which has proved most satisfactory in my hands, consists in frequent bathing in sublimate solution (1 to 4000) and the application either of a salicylic ointment or a salicylic dusting powder (2 per cent.). When the attack has subsided, steps should be taken to prevent its recurrence. Hyperidrosis should be treated, and the systematic use of resorcline or formalin soap seems to strengthen the resisting powers of the skin.

When the disease has spread to the hands and arms, a more soothing treatment, such as simple dusting powder or calamine lotion, may be required; for there the disease presents very little difference from an acute vesicular eczema, except that there is not the same tendency for the vesicles once ruptured to continue to discharge.

MILIARIA

(*Milium—a millet seed*)

Miliaria is an affection not very distantly related to cheiropompholyx. It also is associated with excessive sweating, especially when sudden and profuse, but it has no special localisation, and is not so prone to recur. It is, however, a true inflammatory disease, with the development of vesicles in the prickle layer of the epidermis not unlike those of cheiropompholyx.

The vesicles develop on a tiny red papule, and form a white summit to a red cone. The disease is most common on the

trunk, may spread over a large area, and may prepare the way for a widespread attack of eczema. It is naturally most common in the summer months, and is probably identical with many forms of tropical "prickly heat."

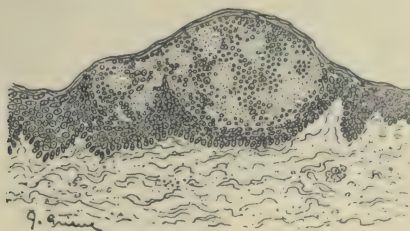


FIG. 23.—Miliaria. Section of a double vesicle evidently developed in the prickly layer and evidently inflammatory. Leucocytes and epithelial cells in the cavity. After Unna. ($\times 50$.)

TREATMENT.— Under a mild antiseptic dusting powder (ac. salicyl. 3, talc 97 parts) or the free application of lead and tar lotion the eruption will soon disappear.

SUDAMINA, OR CRYSTALLINA

(*Sudor—the sweat*)

Although this disease appears in Unna's classification under another heading, it is so often confused with miliaria, that probably the distinction will be best explained and understood by dealing with it here. It results from obstruction of the sweat pores, and the consequent damming back of that excretion. The spots only appear when sweating is excessive, and are most commonly observed in certain fevers, pneumonia, acute rheumatism, typhoid, measles, etc., where the congestion of the skin favours the blocking of the pores, but they are not infrequently seen when the sweating is produced, especially in children, by less serious maladies. Since only a thin, transparent, horny layer covers the fluid, it looks exactly like a tiny drop on the surface of the skin. The nature of this

lesion is very well seen in the accompanying illustration, which is "after" Unna.

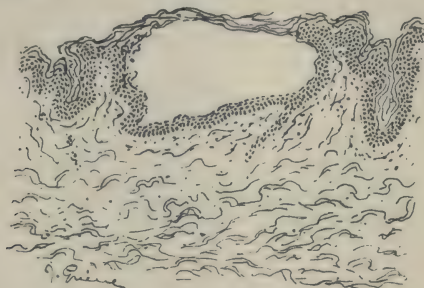


FIG. 24.—Shows the vesicle to consist merely of a distension of the horny layer. At the lower right-hand corner of the vesicle is a portion of a sweat duct. After Unna. ($\times 50$.)

The condition is one which requires no treatment. As the horny layer exfoliates, the fluid is discharged; and as the fever diminishes, so does the tendency to the production of fresh lesions.

IMPETIGO CONTAGIOSA

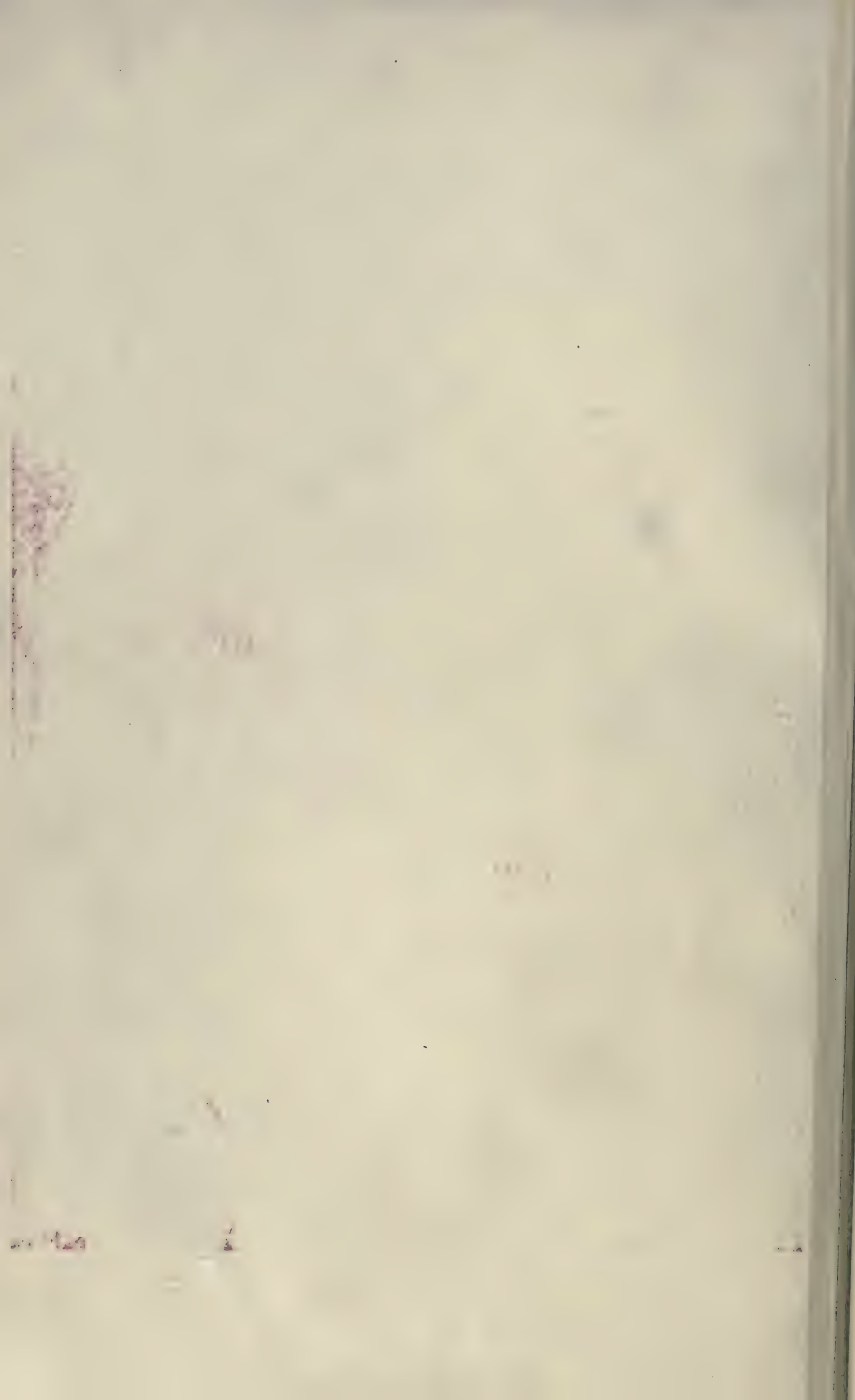
(*Impeto—I rush on*)

The term *impetigo* was used by the older authors in a much wider sense than it now is, and the term *impetiginous eczema* still lingers, though it merely indicates the prominence of suppuration and the presence of purulent crusts. The term used alone, without any qualifying adjective, is generally understood to apply to the disease described by Tilbury Fox as *impetigo contagiosa* (see Plate). This is one of the commonest of skin diseases, one of the simplest to diagnose, and one of the easiest to cure. It occurs at all ages, in all classes, and in both sexes. Not infrequently it appears in epidemics, and it is quite common in boys' schools where Rugby football is played, where it goes by the name of "football itch," or "serum pox."

The first outbreak of the eruption is rarely observed, but, as it spreads, all stages may be observed on one patient, and we



IMPETIGO CONTAGIOSA.



then see that the disease commences as a minute, reddish spot, which rapidly becomes a vesicle, and to speak *more Hibernico*, develops into a pustule almost before one has time to observe the vesicular stage. With almost as great rapidity the pustule dries up into a honey-yellow crust, which in a little over twenty-four hours is often so loosely adherent to the skin that it appears to have been artificially stuck on. When it is picked off at this stage the skin beneath is merely reddened, but if it is separated before it completely dries, the skin beneath is still moistened with a little pus.

There are several varieties of the disease. That which has just been described is the commonest type, and Unna applies to it the term *impetigo vulgaris*. In another form the vesicular stage is more prolonged, and the vesicles reach a greater size before becoming pustular. The whole process is therefore slower, and to this variety Unna gives the name *impetigo serosa*. This is the form which is frequently mistaken for pemphigus by the inexperienced, especially as the lesions present a quite remarkable resemblance to the bullæ of that disease. A third variety is known as *impetigo circinata* (Fig. 25). This spreads in rings, somewhat resembles, and is often confused with, ringworm; but the rapidity of the spread, the pustular nature of all the lesions, the absence of the fungus, and the ease with which it is cured, distinguish it from that disease. One of the Plates illustrating ringworm (*q.v.*) shows the two diseases combined.

Impetigo is very often associated with the presence of pediculi upon the scalp, so often that, particularly in girls, the appearance of impetigo contagiosa should always lead to an examination of the scalp, carried out with discretion. The dermatitis associated with pediculosis capitis is for all practical purposes merely a variety of impetigo contagiosa. (The conditions on the scalp are different, and the appearances are therefore modified, but when the disease is spread to other parts of the body by the patient's scratching, the lesions developed are those of impetigo contagiosa.)

Bockhart's impetigo may be described as a succession of little epidermic abscesses; it is pustular from the commencement, and is therefore easy to diagnose from the other varieties.

When the disease affects the thicker skin on the hands and fingers, the appearances are much modified, owing to the fact that the skin is thicker, and the fluid does not so readily reach the surface. Our American friends apply to it the descriptive term of "run around," and it is often spoken of as a superficial whitlow.



FIG. 25.—Impetigo circinata.

ETIOLOGY.—That the disease is due to a micrococcus, no one now denies. Unna holds that it is due to a staphylococcus which shows peculiarities of growth distinguishing it from the ordinary staphylococci of suppuration, and he is not without followers.

Engmann obtained pure cultures of the *S. aureus* from typical cases, and inoculation resulted in the development

of clear vesicles from which the staphylococcus was again obtained. The majority of dermatologists, however, follow Sabouraud in attributing the disease to the streptococcus, and it is certain that that organism may be obtained pure from the early vesicles in a very large proportion of the cases. In the crusts, staphylococci are abundantly present, and it may be that streptococci are no longer to be found. Bockhart's impetigo is due to the *S. aureus*.

PROGNOSIS.—Left to itself, or improperly treated, the disease will go on indefinitely, inoculating and re-inoculating itself on different parts of the body; while deeper infection of the skin, such as boils and phlegmonous infiltrations, frequently complicate neglected cases.

TREATMENT.—This is very simple. The method invariably followed in the Royal Infirmary, a method so successful that it is unnecessary to recommend any other, is the following:—The scabs are *removed* by boracic starch poulticing, and the part is dressed with an ointment consisting of 5 grs. of ammoniated mercury to an ounce of vaseline or zinc paste. One would naturally think that more powerful antiseptic ointments would be more rapidly efficacious, but experience shows the contrary. Even an ointment of 10 grs. to the ounce is not so successful. The application of too strong an ointment is one of the mistakes often made in treatment; another common one is the application of the ointment upon the top of the crusts. Nearly all the failures I see are due to the deficiencies of the starch poultice. The semi-fluid jelly, too often masquerading under this name, does more to spread than to cure the disease. If the directions given above are implicitly followed, a week should suffice for the cure.

Any pediculi present must of course be destroyed.

ECTHYMA

(*ἐκθήμα—a pustule*)

Ecthyma is an aggravated form of impetigo contagiosa. It is due to the implantation and growth of the streptococcus in the skin, and its presence invariably indicates that the

general health of the sufferer, usually a child, is below par. It frequently occurs in adults who are out of work and insufficiently fed, and parasites of many varieties often complicate and spread the disease.

The lesions are most common upon the legs. They are deeper than those of impetigo contagiosa, and are usually

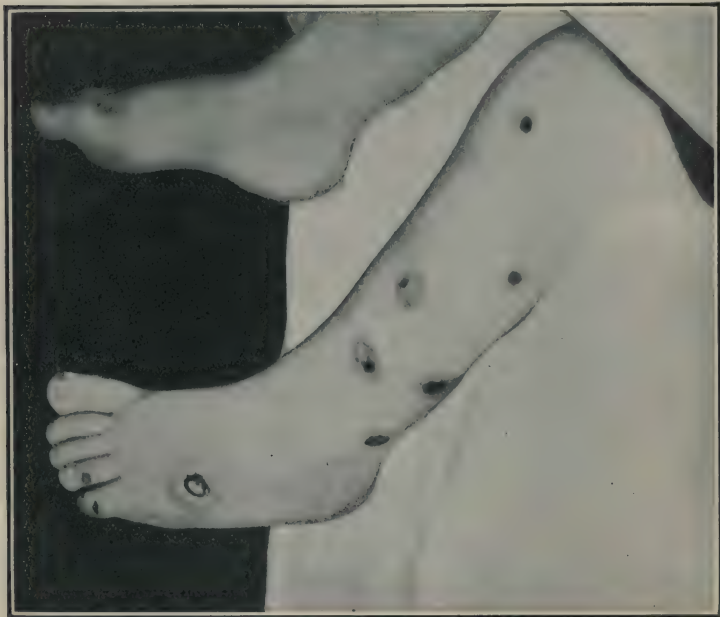


FIG. 26.—Ecthyma.

surrounded by an angry red halo. When the scabs are removed actual ulcers are often disclosed. Fig. 26 is from a typical case in a child.

TREATMENT.—Locally some mild antiseptic ointment should be applied, but no local treatment will be successful unless the general condition of the patient is restored by the administration of good food, abundance of vegetables, and generally some form of iron.

PEDICULOSIS CAPITIS

The lesions produced by the presence in the hair of the scalp of the *Pediculus capitis* are to all intents and purposes those of contagious impetigo. There are, however, certain differences by which the experienced eye can divine the presence of the pediculus without seeing either it or its ova. The crusts are not so discrete as those in impetigo contagiosa; they cover continuously considerable areas of the scalp, and there is usually more exudation, more moisture, more "eczema." Further, at least usually, the crusts have a peculiar, *dirty, greenish colour*, which is practically pathognomonic of pediculosis, while the odour from a bad case is characteristic.

While the disease is commonest in the children of the poor, it is appallingly common among the well-to-do; very few large families and not many small ones altogether escape it; the scalp of every child with impetigo contagiosa should be rigorously examined. If all our schoolgirls had their hair plaited and all our schoolboys their hair cut with clippers like their German cousins, there would be fewer cases of pediculosis and fewer suppurating and tuberculous glands.



Pediculosis is almost invariably *limited* to the *back* of the head. Very little disease will be found in front of a line drawn from ear to ear across the vertex. Usually the parasite (Fig. 27) is very much in evidence; but if not, careful examination will discover the ova adherent to the hairs near their roots. The irritation in the scalp often leads to swelling and breaking down of the glands at the nape of the neck, and considerable abscesses may form, while lesser degrees of irritation facilitate the development of tuberculous adenitis.

FIG. 27.—*Pediculus capitis*.

TREATMENT.—*Causa sublata, tollitur effectus*, is not always true, certainly not in many diseases of the skin; but in this one at least the proverb holds. The cases where the destruction of the cause is not followed by the rapid disappearance of the disease are very few in number.

Often enough the irritation looks so great that the inexperienced hesitate to follow the somewhat heroic treatment which they would at once recommend in milder cases; but in the vast majority of cases the results will be so satisfactory as to give confidence on future occasions.

There are many applications which are certain death to the pediculus and its ova. The one which is invariably used in the Royal Infirmary is *common paraffin oil*. The patient is directed to anoint the head freely, to cover it with rags soaked in the oil, and to wear over all an oiled silk bathing-cap. A second soaking follows twelve hours later, and after twelve



FIG. 28.—Ovum of pediculus or “nit” attached to hair.

hours more the scalp is thoroughly washed with soap and water. This may at first appear to increase the irritation, but that very soon dies down and the case is cured. The method also removes some of the less firmly adherent “nits” from the hair, but for the rest other means must be used. Probably the old-fashioned tooth-comb is the best of all. Lotions of acetic acid (1 to 4) are useful in loosening the binding cement which fixes the nits to the hair. If the irritation is so great that this method is really inapplicable (although, as has been already indicated, it may be used where there is considerable irritation), an ointment of ammoniated mercury (grs. x to ʒj) may be used for a day or two until the irritation has subsided, and then

the paraffin method may be employed. The oil of sassafras, and xylol, have been recommended as substitutes for paraffin. I do not find them more efficacious, and they are certainly not so ready to hand as paraffin. With regard to the glands, incisions should only be made when *urgently* indicated. When the irritation is removed considerable swellings disappear in a surprisingly rapid manner. No doubt matters may be expedited by shaving the head, but it is only in very bad cases that this is absolutely essential.

PEDICULOSIS PUBIS

The *Pediculus pubis*, or crab louse (Fig. 29), differs somewhat from its cousin the *Pediculus capitis*. It affects the regions of the stronger hairs, and is found on the genital regions, the axillæ, and on the eyebrows and eyelashes.

On the eyebrows the lesions tend to be impetiginous, but in the other situations the irritation of the parasite gives rise to a drier form of dermatitis.

Itching is the great complaint of patients thus affected, and there is often very little to be detected on examination. Patches of greyish discoloration are often seen on the skin, due to pigment produced by the insect. Reddish deposits of fæcal matter on the hairs were noted by Erasmus Wilson, and the ova are seen attached to the hairs as on the head.

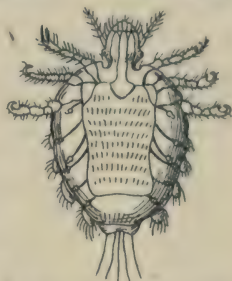


FIG. 29.—*Pediculus pubis*.

TREATMENT.—Some form of mercurial ointment is usually prescribed. White precipitate is excellent, red precipitate had the approval of Burns, and ordinary mercurial blue ointment is the usual chemists' prescription. As in scabies, care should be taken that the disease is not overtreated, and a dermatitis due to the application substituted for the disease.

It is as a rule at this stage that cases come under medical observation. The memory is all that remains of the pediculosis, and the mercurial dermatitis only requires some simple soothing lotion.

ECZEMA

(ἐκζέω—I boil over)

“*Eczema is the term commonly applied to any wet or scaly inflammation of the skin, of the cause or nature of which the observer is ignorant.*” The word eczema is almost literally translated by the word eruption (bursting out or boiling over), and it is clearly open to anyone to call any rash upon the skin

"an eruption." The skin responds to irritation, just as do other organs, by hyperæmia and exudation, and, according to the irritant, one or other of these, or their results, may predominate. To those who know nothing, or next to nothing of the diseases of the skin, all eruptions are eczema; but as knowledge increases one is able to identify in certain cases either a definite recognisable cause, or a definite sequence of events, which enables him to arrange certain diseases under more instructive headings. This is well illustrated in the case of such common diseases as scabies and ringworm, particularly that form of the latter disease which affects the groins, and which is still often called eczema marginatum. These diseases in appearance resemble "eczema," and it is only the identification of their cause which at once justifies their separation from that chaotic conglomeration. Many chemical irritants produce inflammations of the skin, accompanied by moisture and scaling which some indeed still call eczema. To most, however, the recognition of a definite cause is sufficient to separate these from that disease. In a great proportion of cases we are still ignorant of the causes, and until knowledge is further advanced it remains necessary to describe eczema, although the number of forms and varieties which must be considered more than suggest that we are dealing with more than one disease.¹

Eczema is a name which is a cloak for ignorance, and we should endeavour to follow Tilbury Fox and Unna in rescuing from under its shelter groups of cases which follow definite lines. In the meantime, however, we accept the situation, and provisionally class together all the remaining forms of inflammation as eczema.

In this collection of inflammations, then, we recognise certain forms of eruption which are constantly repeated. The exudation may be comparatively small in amount and may be localised at certain spots. The skin is then raised in a little

¹ I entirely agree with the late Dr. Nevins Hyde, who wrote: "Is it not clear that the word eczema . . . has outworn its usefulness?" "The word eczema in the mouth of the expert has become a feature of the man in the street, of the advertiser, of the charlatan." "The doom of the word is probably written. It will survive where it belongs, and with no greater repute than attaches in general to the out-worn and discredited."

elevation to which the term *papule* is applied. Should the exudation be more abundant some of it makes its way towards the surface, raises the horny layer over it, and is evident as a *vesicle*. If the exudation is greater in amount the horny layer is ruptured and the fluid continues to exude upon the surface, making a weeping eczema. This fluid forms an admirable breeding ground for micro-organisms, and these attract leucocytes from the vessels, with the result that a *sero-purulent* crust is formed upon the surface. In some cases the irritation leads to excessive dilatation of the blood-vessels. The skin becomes abnormally red, and to this form and variety the term of *eczema rubrum* is applied.

These forms are used in our present state of insufficient knowledge as a convenient means of classification, and Duhring has happily called them "lesional varieties of eczema"; while he has otherwise divided eczema into "regional varieties," according to the part of the body affected.

ETIOLOGY.—If it be admitted that the term "eczema" probably includes more than one disease, it is very evident that it is absurd to lay down any laws about its cause. Many theories have been put forward, their very multiplicity and contradiction showing how evident it is that we are dealing with a collection of different conditions. Many incline to the belief that eczema is parasitic, and the similarity between "eczema" and the traumatic inflammations of known external origin suggests the local action of some irritant; and there is no more likely source of such irritation than the growth on the surface of the skin of micro-organisms. Indeed, amid much difference of opinion at the International Congress of Dermatology in Paris, there was quite remarkable unanimity as to the effect of organisms in, at all events, aggravating eczema.

That pathogenic organisms are found as harmless saprophytes on healthy skin is well known, but that does not prevent their assuming a parasitic rôle if circumstances are favourable. Is not the diphtheria bacillus frequently found in the throats of persons apparently in perfect health? And have not Sabouraud's researches, almost everywhere confirmed, shown us that the streptococcus, with its widespread power for

evil, may produce so generally trivial a disease as impetigo contagiosa?

The organisms most commonly found are the *S. aureus* and *albus*, and the coccus first described by Welch as the *S. epidermidis albus*. That the growth of these organisms on an inflamed surface has a very important effect in aggravating the disease is admitted by practically all, but that any of them is to be looked upon definitely as *the* cause of eczema, is a proposition that only a few enthusiasts maintain.

The *S. epidermidis albus* is apparently identical with the morococcus which Unna claims as the cause of certain forms of eczema, and with the white coccus to which Sabouraud ascribes the scaling which is so frequent an accompaniment.

Bockhart, in a series of interesting experiments with cultures and toxins of the *S. aureus*, found that while the inoculation of the cultures produced abscesses, the toxins produced eruptions of a papular and vesicular nature, such as are generally associated with eczema—provided that the skin was irritated prior to the inoculation.

The French school maintains that the primary vesicle of eczema is invariably amicrobic, but admits the importance of organisms as aggravating causes.

There are thus three views in regard to germs: one regarding them as the direct cause of the disease, another as the exciting cause, while the third considers that they merely aggravate existing eruptions.

We are familiar with a number of predisposing causes which, at all events, have some influence on the development and duration of an attack. Disorders of digestion or assimilation are very generally believed to have an important bearing on both. Many go too far, and, even when no evidence of such disorder can be detected, put their patients on a special diet and order an acid, alkaline, or diuretic mixture. If any such disorder is present, its cure will undoubtedly hasten the disappearance of the eczema; but the only varieties of eczema, where digestive disorders will rarely be inquired for in vain, are those in the neighbourhood of the mouth and anus.

Constipation is frequently present, and the proper regula-

tion of the bowels is as desirable in patients with eczema as in every other individual.

Anæmia is undoubtedly a frequent predisposing cause, and it is impossible to ignore the action of the nervous system. The sudden symmetrical outbreak of certain forms, their occurrence at certain periods, *e.g.* the menopause, and their occasional appearance immediately in relation to some mental or financial emotion, make it impossible to deny to the nervous system an important significance in eczema. Actual changes in the structure of the nerves have been noted by a few favoured observers, but as they have been repeatedly sought for in vain by competent histologists, the claim that all eczema is dependent upon nerve disturbance is clearly absurd. It may be put shortly, that anything which lowers the general resisting power of the patient will predispose to eczema.

Eczema often develops without any premonitory symptoms, but there may be some malaise and a feeling of local heat before the actual appearance of the eruption. It may occur in those who are manifestly below par, or its victims may be in the rudest health. It may appear primarily in almost any of the lesional varieties, or it may develop into any of these through some previous one. Thus an eczema may be vesicular at its first appearance, or erythema and papules may precede the vesicles.

DIAGNOSIS.—Any acute or chronic catarrhal inflammation of the skin, of which the nature or cause is unknown, may be diagnosed as eczema. The greater the observer's experience, the more diseases can he differentiate from eczema, and the fewer remain to be so-called.

PROGNOSIS.—Every case of eczema is curable. The time required may be long; prolonged investigation, and a trial of many remedies necessary, but, if the treatment be carried out on sound principles, the ultimate result is always satisfactory.

HISTO-PATHOLOGY.—A knowledge of this is of great value in the comprehension of the different varieties and of their relationship to one another.

In giving a brief résumé of Unna's observations, many of which I have confirmed, it is only right to point out that he very nearly goes the length of claiming all eczemas as sebor-

rhœic. I am not prepared to follow him so far. I recognise to the full the very great benefit he has conferred on medicine by his work on seborrhœa, but I think it is to be regretted that he should have used the word "eczema" in connection with it. Seborrhœic dermatitis is a form of inflammation of the skin, and, until Unna showed us its special peculiarities, remained one of the many inflammations classed together as "eczema." The histological appearances of all these inflammations are very similar, and much more research will be required before we are in a position to recognise the minor differences between different inflammations of the skin under the microscope.

In the epithelium three main changes are observed and



FIG. 30.—Eczema. The scaly spot, *P*, shows parakeratosis; at *V* a vesicle has formed in the prickle layer, whose cells show irregular cornification (parakeratosis) and proliferation (acanthosis). Deep changes are shown by the infiltration round the vessels. ($\times 50$.)

the lesional variety of the eczema depends on which of these predominates.

The most important is *parakeratosis*, or irregular cornification, which is a marked feature of every variety of eczema. It is essentially a parenchymatous œdema, an intracellular œdema, a condition of excessive moisture of the epithelial cells. Instead of going through the regular process of cornification, with the deposition of keratohyalin granules and the conversion into

dry anuclear horny cells, the prickle cells remain moist in their interiors, and, though they undergo a sort of mechanical drying process externally, they preserve their nuclei right up to the surface. Being moister, they are naturally more adherent, and are cast off in masses as scales instead of, as normally, singly and insensibly. This factor predominates in the scaly eczemas.

The second change is *acanthosis* (ἀκανθα—a spur, prickle), proliferation of the prickle cells. Mitoses are much more numerous and more widespread than normal, and as a result the epithelial layer is increased in size. Acanthosis is most marked in some papular forms of the disease, though it is usually present to some extent.

The third characteristic is due to an extension of the same cause which produces the first, viz., an excess of moisture. The fluid is not only in, but between, the cells; they are separated from one another, and if the fluid be present in sufficient amount, a vesicle is evident clinically. Unna calls this *spongy metamorphosis*. Some degree of this is always present. The older writers, who held that eczema was always a moist disease, have unwittingly proved to be verbally correct, though often there is no clinical evidence of moisture. The more marked it is the more evident is the vesicular character.

There are also changes in the deeper tissues, which give character to certain varieties of the disease. Dilatation of the vessels is very prominent when the eczema is erythematous, exudation when it is oedematous, and actual proliferation of the connective tissue is found in certain chronic infiltrated cases.

With all these different phenomena present in varying degree, now one, now another, now a combination of two predominating, it is abundantly evident that the clinical pictures presented are almost kaleidoscopic in their characters.

Before entering on the description of the several varieties of the disease, it will be well to consider those general rules of treatment which are more or less applicable to all.

GENERAL TREATMENT OF ECZEMA.—Eczema is so varied in its forms, and in its effects on different parts of the body,

that it is beyond possibility to indicate any definite line of treatment for the disease as a whole. Certain broad principles may, however, be laid down, though the most steadfast of these are but of a negative character.

First and foremost, the idea must be thoroughly grasped, that there is **no specific for eczema**; there is no medicine which, administered internally or applied externally, can be confidently expected to cure the disease.

The drugs against which the previous sentence is mainly directed are *arsenic* and *zinc ointment*, regarding which a far too wide tradition still lingers that they, and practically they only, are *the* treatment for all kinds and varieties of the disease. Of recent years ichthyol has somewhat invaded their preserves, and is largely ordered in the same haphazard method.

Zinc ointment is in most cases at least harmless, and both it and arsenic have their uses in suitable cases; but arsenic is very far from harmless; indeed, it is hardly too much to say that its invariable administration in all forms of eczema is calculated to do more harm than good. The only cases in which it is useful are the exceedingly dry, chronic, scaly eczemas. Wherever vesicles are present, or even in their absence when the skin is inflamed and oedematous, arsenic is almost certain to aggravate the condition.

Antimonial wine in small and repeated doses is sometimes useful when the skin is greatly inflamed. Salicylate of soda is of some value in acute cases, but the internal treatment of eczema as eczema is of very minor importance; if other complicating disorders are present, they are to be treated *secundum artem*.

External treatment consists in soothing the inflamed cases, stimulating the chronic ones, and where there is reason to suppose that parasitic agents are present, in applying suitable germicides. Our treatment is plainly symptomatic; we endeavour to ease itching, to soak up discharge, to supply deficient fat, to diminish hyperæmia; in short, to put the skin at rest, so as to allow Nature to perform the cure.

The question of *diet, alcohol, water, climate*, etc., all demand consideration.

Diet was for a time to all, and still is to many, all-important

in the treatment of eczema, and many old eczema patients can produce pages filled with the most elaborate and careful directions in regard to it.

Common rumour incorrectly attributes to the German school an utter disregard of what goes into the body. Certainly the German diet differs very remarkably from the British, and the *menu* of a dinner, even in a skin clinic in Germany, is enough to make our dermatological ancestors turn in their graves. Pork, uncooked smoked fish, raw ham, and mixtures of jam and potatoes, are not the sort of diet they ordered to their patients. Yet the patients do well; they recover as quickly as elsewhere; and when they go back to the world do not require special consideration in the domestic circle.

The articles of diet which do harm in eczema are those which produce *any increased flow of blood to the skin*, and a consequent increase of itching, which lead to scratching, and the initiation by this means of a *circulus vitiosus*. What these articles are must be found out by each patient for himself, and eliminated from his dietary. "What is one man's meat is another man's poison." Still certain articles which are harmful in the great majority of cases, such as curries, pickles, spices, and condiments generally, should be avoided.

Porridge is regarded by many as undesirable for eczematous patients. Insufficiently cooked, as it too often is in England, it is undoubtedly as bad for eczematous patients as it is unpalatable to all, but if the meal be thoroughly boiled, any little harm which the irritation of the particles of husk may do is more than counterbalanced by its value as a light and nutritious food. Probably re-cooked foods are undesirable, and where expense is no object it is as well to avoid them.

It is superfluous here to present a list of diets for dyspeptics who may also be sufferers from eczema. It is likely enough that their eczema is aggravated, and almost certain that complete cure is hindered by the dyspepsia; but dyspepsia must be treated as a disease of the stomach and not of the skin. The very careful search for symptoms of indigestion to account for every eczema is occasionally successful in developing the

delusion of dyspepsia in a previously healthy patient. In acute inflammations of the skin, if the temperature is raised (though this very rarely happens), the diet should be suited to the febrile condition, and in any case when the eruption is acute the diet should be light.

Alcohol.—Seeing that alcohol possesses in a very eminent degree that power of stimulating the cutaneous circulation and increasing itching which has just been referred to, it is clearly desirable that alcohol should be avoided altogether. Many cases are delayed, if not prevented from healing, by even its moderate use, an observation which can readily be confirmed by cutting it off. All eczemas are not equally injured by it; the papular and moist red eczemas are most unfavourably influenced, the dry, scaly forms least. With reference to the form of alcohol which should be taken if its use be unavoidable, the selection depends more on the general condition than on the disease of the skin. So far as the skin is concerned, it is the alcohol which does harm, not those other varying constituents which make up beer, whisky, claret, sherry, etc., and if the patient will drink he should confine himself to those beverages which contain least.

As regards tea, I cannot altogether agree with those who attribute such powers of evil to “the cup that cheers.” Too much tea, especially badly made tea, is bad for everyone, but well-made tea in moderation does no more harm to persons suffering from cutaneous diseases than it does to healthy people. If drunk in quantities, and *too hot*, it has the same bad effect in flushing the skin as alcohol and spices. Coffee sometimes increases itching, in which case it should be avoided, while cocoa, except when too hot, is harmless.

Water.—Mineral waters which contain a small amount of some indifferent alkaline salt are probably innocent enough, but the custom of drinking large quantities of strongly alkaline water is not one to be advised. Medicated waters, such as Levico, are hardly to be looked upon as drinks, but rather as medicines.

A patient will sometimes relate with an air of pride, on exhibiting an eczematous leg, that it has “not had water near it” for two months. The limb usually bears all the marks of

this, and the phrase is quoted, since it illustrates what is still a very common practice. The effect of water is, however, not altogether bad, and a good deal of its evil repute is owing to the fact that many waters contain ingredients which are irritating to any skin, and particularly so to the eczematous one. It is well known in one of our border towns that eczema of the hands, which is exceedingly common there, will disappear when rain-water is used instead of the town supply. Still, the fact remains that even rain or distilled water, if used too frequently, and if the parts are not sufficiently dried, does to some extent aggravate the disease. The question of water really depends on its proper use, and the little irritation caused by washing a limb must surely be more than counterbalanced by the removal of the accumulated secretions, excretions, and organisms. After the use of water the denuded epidermis tends to dry and crack, and it is therefore essential to restore artificially some of the natural lubricant which has been removed. The fact that water enters into the composition of many of the applications for the skin (lotions, starch poultices, and cold cream) surely shows that in itself it is not so terribly injurious.

Matters are different when there is added to the water its usual accompaniment, namely, soap (see p. 30). The alkali set free on the addition of water to every soap, and the impure fats of cheap ones, irritate the inflamed skin. In the case of eczema, soap should be used only when absolutely necessary, and the patient should find out by experiment the soap which irritates his skin least. This will usually be found among the less advertised varieties. A handful of oatmeal will aid in cleansing the hands, and will at the same time to some extent soften the water. After the use of soap the necessity of supplying to the skin its lost lubricant is, of course, greater.

Climate.—It is no very difficult matter to lay down rules with regard to climate in eczema. With one exception all cases of eczema are aggravated by residence on the north and east coasts, where the particles of brine conveyed by the wind have a constantly irritating effect on the disease. The exception is when eczema occurs in tuberculous subjects, in whom the benefit to the general health is often so great that the increasing strength of the patients suffices to throw off the eczema in spite

of the evil influence of the brine. The other coasts, if their prevailing winds are from the sea, are also injurious, but the milder winds which are supposed to come from the south and west are usually less brine-laden than those from the other directions.

In tropical regions the activity of the sweat glands commonly tends to aggravate the moister forms of the disease.

Occupation.—This, of course, has a great bearing on many cases. Most of the "occupation" eczemas, however, come under the category of the traumatic inflammations; for they are begun, continued, and aggravated by the repeated application of the irritant; and further, it should be noted that the occupation is sometimes apparently responsible for an inflammation of the skin which lasts long after all traces of the irritant must be supposed to have passed away.

Exercise.—Sufficient of this to keep the whole system in good order is, of course, most desirable. Generally speaking, however, it is best that patients with eczema should not take any violent exercise which promotes perspiration, for this tends to aggravate any existing eruption. Cycling should be indulged in only in moderation. If profuse sweating is induced, the eczema will certainly be aggravated, but if the sufferer gets into good condition little if any harm will result.

LESIONAL VARIETIES

The lesional varieties are practically the various stages of the older writers, but since every case does not go through all the stages, Duhring's new term is a distinct improvement.

The eruption of eczema is usually multiform. The terms used refer to the prevailing character of the eruption, and do not exclude the possibility that a few papules and vesicles may be present, for instance, in erythematous eczema, or that in the papular form a patch may be infiltrated, weeping, or fissured.

Erythematous Eczema.—The skin is reddened and swollen, where the subcutaneous tissues are loose (*e.g.* eyelids, scrotum), sometimes intensely so, and the patient complains much of a burning sensation. This variety is most common on the face, and is not infrequently mistaken for erysipelas. From that

disease it should be distinguished by: (1) its less brawny hardness; (2) its less abrupt border; (3) the absence of bullæ; and (4) the very slight, if any, rise of temperature. In the diagnosis of a doubtful case *all* these differences must be taken into account. Thus a bulla may be accidentally present, but if the infiltration be slight, the border not abrupt, and the temperature normal, its occurrence may be ignored. This variety usually terminates in scaling. If it occurs on the scrotum, when the adjacent skin of the thigh is generally also affected, it tends to become moist. As a rule acute, it occasionally assumes a chronic course, and if not completely cured relapses are certain to occur.

TREATMENT.—Greasy applications should, as a rule, be avoided. In slight cases *linimentum exsiccans* or *gelanthum* (p. 24) are generally useful. Some prefer lotions containing bland powders, *e.g.*:—

R	Ac. Boric	3j
	Calaminæ	3iij
	Zinci Oxidi	3ij
	Glycerini	3ij
	Aquam ad	3vj

or simple dusting powders, such as carbonate of magnesia, starch, or talc. In the chronic form more active remedies are required. They should be very cautiously applied in the first instance, as this variety is often very intolerant of treatment. Tar, at first very weak (3j to Oj), is often useful.

Edematous Eczema.—This variety is rarely if ever seen alone. It may complicate the erythematous variety, but the term is most applicable to a form which occurs in patches, particularly on the upper arm and trunk, where a little area of skin about the size of a sixpence is raised above the surrounding level by the exudation of serum into the corium. Here and there the fluid reaches the surface in little drops, which usually rapidly coagulate to form tiny fibrinous crusts.

Such forms sometimes resemble mild cases of dermatitis herpetiformis. That disease is usually associated with much more itching, and the appearance of repeated crops of patches generally settles the diagnosis. The superficial changes in

this form are comparatively slight: the main factor is the exudation of fluid into the deeper tissues, only a part of which makes its way to the surface.

TREATMENT.—The avoidance of grease is as important in this as in the erythematous variety, and dusting powders or lotions similar to those recommended for that form are generally the best local remedies. These cases are sometimes greatly benefited by a good scrubbing with soap spirit.

Papular Eczema.—Two varieties must be distinguished. We have first the acute inflammatory papule, which is merely a stage in the development of the vesicle, and the chronic papule, which is due to epithelial growth (acanthosis). The acute form is found most frequently on the flexor surfaces of both arms and the back of the neck, appears suddenly, and is accompanied by much burning and itching. It does not necessarily go on to the development of vesicles; it may be arrested at the papular stage by appropriate treatment. The more chronic form is especially apt to occur on the limbs. The papules may be flattened or acuminate, their colour varies from a pale pink to a deep red, and their distribution is irregular. Often as the result of scratching, their apices are surmounted by hæmorrhagic crusts, and here and there more or less fully formed vesicles may be seen. Itching is always a prominent feature.

The disease which it most resembles is *lichen planus*. Indeed, this variety of eczema was long known as lichen simplex. The shape, colour, and distribution of the papules do not correspond with those of lichen (*q.v.*), and the presence here and there of vesicles usually makes the diagnosis a matter of no great difficulty. It may also be confused with prurigo, but in that disease there is a history of development in infancy, and enlargement of the femoral glands.

TREATMENT.—The acute form is best treated by lead and tar lotion, or by a dusting powder, the use of which may avert further developments. Chronic papular eczema is one of the most difficult forms of the disease to treat. Although chronic, it often resents treatment, and ointments should be very cautiously used, and only to a small area in the first instance. Lassar's paste, with 10 grains of salicylic acid to the ounce, is sometimes useful. The proportion of salicylic acid may be

gradually increased. Nargol, an organic silver combination, is a valuable alternative to salicylic acid, and so is salol. In many cases it will be found impossible to use active remedies, and the application of weak tarry lotions or of black wash will be followed by steady though slow improvement. If the itching is very severe, zinc gelatine will often be found useful.

It is important to carefully inquire into the general health and to rectify any disorder, though one cannot hope for much from direct internal treatment. Arsenic in particular should be avoided; too often it simply converts a papular into a vesicular eczema.

Vesicular Eczema.—Acute uncomplicated vesicular eczema is not a common disease. It develops rapidly, and its general characters suggest the action of some external irritant, such as one of the poisonous plants, as will often be discovered on careful inquiry. At first the skin is swollen and red, then the surface becomes dotted with papules, which are soon surmounted by vesicles. These rupture, and fluid continues to exude from the broken surface. In some cases the exudation soon dries up, and the process is rapidly terminated, but in others fresh crops come out, the exudation coagulates on the surface, and forms fibrinous crusts, the presence of which further aggravates the condition. These crusts soon swarm with organisms, the exudation becomes purulent, and thus are formed the *purulent* and *crusted* varieties of the disease. If the discharge is very profuse the crusts are washed off by it, and there develops the variety known as *eczema madidans* (Latin root *madeo*—wet or overflowing). In some cases, possibly owing to the nature of the irritant, the blood-vessels dilate more than usual, and the part looks intensely red, hence the term *eczema rubrum*.

TREATMENT.—Acute vesicular eczema is best treated by the application of lotions or powders. It is an advantage that the powders should be made mildly antiseptic, especially if the crusts are partly purulent, by the addition of a little boric or salicylic acid.¹ If the weeping continues, care must be taken

¹ It should be noted that in some individuals the application of boric acid causes intense pain, and it is sometimes necessary to omit it even from the starch poultice.

that the discharge does not accumulate on the surface, and by its presence give rise to further irritation. As a rule it is desirable to intermit at intervals the use of lotions or powders. An occasional starch poultice (p. 21), or the application of strips of lint soaked in oil, may be required to remove the crusts. As the discharge lessens, Lassar's, or a paste composed of equal parts of carbonate of magnesia and vaseline, may be applied. As pointed out in the section on general treatment, pastes do not dam up the excretions so much as ointments. They should, however, only be applied when the discharge has nearly ceased, to promote the healthy cornification of the surface, and to hasten the removal of inflammatory products from the corium. In that stage to which the term "eczema madidans" is applied, where drops of fluid are exuding freely all over the surface, astringent lotions are most suitable. Black wash or a weak solution of the acetate of lead should be applied on lint or muslin. The excessive moisture is accompanied by a marked porosity of the epithelium, and in this and in the "rubrum" variety the continuous application of ointments is not contra-indicated, is indeed sometimes beneficial. Hebra's ointment (equal parts of lead plaster and vaseline) may be applied, spread on strips of cloth, and changed twice daily. It will sometimes be found that the continued use of Hebra's ointment is associated with the development of crops of little pustules, not as a rule on the part to which it is applied but in its immediate neighbourhood, and it is sometimes necessary to stop its use on this account.

Pustular Eczema.—It is of course understood that *impetigo contagiosa* is no longer referred to under this term. True pustular eczema is rare. The discharge is usually markedly serous, and pustules indicate the presence of some pyogenic organism. Some cases described as pustular eczema are really ringworm, and in all doubtful cases parasites should be sought for.

TREATMENT in this form is directed against the most important characteristic, the suppuration, by the continuous application either of weak antiseptic lotions or ointments. Weak boric lotion or hydrarg. ammon., grs. v, vaseline $\bar{3}$ j, should be kept constantly applied to the part.

Scaly Eczema.—It is rare for eczema to take this form primarily. It usually forms the last stage of some other variety, erythematous, papular, or vesicular. It may occur on any part of the body, but is perhaps most common on the legs. In it parakeratosis is the prominent feature, the epithelial cells are unhealthy, and do not undergo their proper horny metamorphosis.

TREATMENT.—Ointments are the best applications. They should be well rubbed in, so as to soften and remove the scales, and cloths spread with them should be applied to the part. The most suitable drugs are tar and salicylic acid; the proportion should at first be small, and be gradually increased as requisite, the effect, especially of the latter drug, being carefully watched. A very successful application in eczema of this sort on the legs of old people is equal parts of oil of cade and cod-liver oil. As the disease gets better the proportion of tar may be increased, and by the time the cod-liver oil has disappeared from the prescription the leg is usually well. Another useful method of treatment is the application of strips of cloth spread with soap plaster, to which 2 or 3 per cent. of salicylic acid has been added. These may remain on for twenty-four hours, or even longer as the case improves. In these chronic cases there is invariably a good deal of thickening of the deeper tissues. Treatment must be continued until this has entirely disappeared, otherwise relapse is inevitable.

In very obstinate chronic infiltrated eczema the heroic method of treatment first recommended by Hebra is often of great value. A pledget of wool is dipped in a solution of caustic potash (1 to 4), and the part is scrubbed with this. The potash dissolves the epidermic cells, in a few minutes large drops of exudation cover the surface, and severe pain is experienced. The part is then bathed with warm water for some minutes, after which strips of cloth, spread with equal parts of lead plaster and vaseline, are carefully applied. This method should be very cautiously used until experience in handling it is gained, after which it will be found a most valuable weapon in obstinate cases. In localised obstinate patches it is probably the best method of treatment. A some-

what less severe method is the scrubbing of the part with soft soap.

If there is much thickening of the corium, and the eczema occurs on parts much exposed to movement, fissures are prone to occur. This is most frequent on the hands, or about the knees and elbows. The fissure is a mere accident, due to the loss of elasticity in the infiltrated skin, but such cases are sometimes described as *Eczema rimosum*. Salicylic acid in ointment or plaster is usually the best application.

REGIONAL VARIETIES

Until there is more definite accord as to the nature, etc., of seborrhœa it is impossible to deal with the varieties of eczema without alluding to it, but the subject is fully considered separately.

Scalp.—The commonest form of dermatitis of the scalp is that due to seborrhœa (*q.v.*). The complication of ring-worm known as kerion is sometimes mistaken for eczema. It almost always occurs in regularly or irregularly rounded areas which are often covered with purulent crusts. When these are removed a moist red surface is disclosed. (See Plate facing p. 198.) From the openings of the hair follicles little droplets of pus may be squeezed, and the hairs which have not already fallen may be lifted out of the follicles easily. In some of them the fungus will be found. Cases of favus in which the crusts have been removed may show a red moist surface, which passes as eczema until the fungus is discovered in the hair. Other cases are due to applications such as hair dyes and washes. These must be tactfully inquired for; patients very rarely volunteer any information regarding them.

Ear.—The skin behind the ear is a very common seat of inflammation, almost always seborrhœic in origin. The part is red, and covered here and there with crusts. Very often, owing to accidental movements, fissures develop at the angle between the scalp and the ear. The main obstacle to treatment in this situation is the difficulty of keeping the application in contact with the diseased surface. This is

overcome by the use of salve muslin (zinc ichthyol, or any other which may be suitable). If this is not available an ointment or paste should be spread upon strips of cloth and carefully applied to the two inflamed surfaces. Lassar's paste is frequently useful.

The meatus auditorius is often attacked by eczema. Sometimes this is secondary to a catarrh of the middle ear, and is directly set up by the discharge; sometimes it may be found with a sound tympanic membrane. It is most important that in such cases the ear should be thoroughly examined, in order that the presence of polypi, foreign bodies, or other disease may not be overlooked. The parts must be kept scrupulously clean, and the meatus washed out repeatedly with weak antiseptic solutions. If the inflammation is secondary to discharge from the middle ear, treatment must be directed towards that condition. If confined to the skin, the important point is to be sure that the remedy reaches the diseased area. It is difficult to introduce ointments sufficiently deeply, and one of the best means of treating such cases is by a weak solution of resorcine or salicylic acid (1 to 4 per cent.) in equal parts of spirit and water, dropped into the ear at intervals. Strong solutions of nitrate of silver (Arg. nit. gr. x, Spt. æth. nitrosi ʒii) may be painted on, and chloride of zinc, gr. x to ʒj, is often useful.

The lobe of the ear is very often the seat of lupus erythematosus, under which heading the differential diagnosis is dealt with.

Face.—The face is probably the commonest seat of the erythematous form of eczema, the resemblance of which to erysipelas has already been referred to. (Lupus erythematosus, too, has its favourite seat on the face, and this possibility should be considered before a diagnosis of eczema is arrived at.) Large areas of skin are attacked, but there is very often a narrow band of unaffected skin between the disease and the hair on the forehead. Most commonly acute (see p. 128), it occasionally, especially in elderly people, takes a chronic form, the true skin is thickened, and the natural lines and furrows of the skin become greatly exaggerated. Soothing lotions, or the linimentum exsiccans (p. 24), are the most suitable remedies

for acute cases; chronic ones require more active treatment, for the deep infiltration must be dispelled. Lotions are the safest remedies; greasy applications should only be used with caution, and to a small area at first. Salicylic acid and tar are the most useful active drugs for the dispersion of the infiltration, and, in Duhring's words, the use of the latter should be "cautiously experimental."

This is probably the most convenient place to call attention to the frequency with which so-called eczemas of the face and hands (the exposed parts) are due to some external irritant. While it is always desirable to inquire closely into the cause of an eczema, it is especially so in those in these situations. Over and over again I have found cases due to some wholly unsuspected cause connected with the patient's occupation, toilet, or amusements, and so convinced am I of the frequency and the importance of these that I propose here to introduce some clinical notes of one or two illustrative cases.

If an eruption attacks only those exposed parts, suspicion should at once be aroused and a course of inquiry of the most searching nature entered upon. Sometimes the cause is found at once, sometimes it may take weeks or months to track the irritant. Every detail of history is important, every scrap of circumstantial evidence should be sifted, and every likely clue followed up. One of my earliest cases was that of a nurse, under the care of my friend Dr. Purvis, who had attacks of "eczema" of the face, which always appeared when she went to a new case. The first thing that occurred to us was that the sea air (one attack came on at North Berwick) might be responsible, but further inquiry showed that this could not be the case, for she had had severe attacks at Peebles and Bridge of Allan. I failed at the time to discover the cause, but Dr. Purvis eventually found it. Influenced by a natural desire to look her best on arrival at her patient's, she was in the habit, when she had sufficient notice to do so, of washing her hair, and applying to it a lotion which was supposed to beautify it. After this discovery there were no more attacks of eczema.

Another case puzzled me for a long time. The patient

had occasional attacks of violent "eczema" of the face. They died down quickly, but incapacitated him for work for a day or two. I considered the likely causes, and when a Chinese primrose was discovered in his house it was supposed that the solution had been reached. But the attacks continued as before. We exhausted all the ordinary lines of inquiry, and then I suggested to him the plan, which I have more than once found useful, of keeping a double-column diary; one column for events, the other for eczema. This solved our difficulty, for the attacks were found to coincide invariably with his visits to a certain town. Following out this clue it was found that he had to catch so early a train that he had not time to shave at home, and was shaved by a barber in this town. He has since got up a quarter of an hour earlier on these mornings and has had no more "eczema."

This leads me to refer to the question of soap. As already mentioned, I do not believe that soap is really responsible for all the evil that is attributed to it. But just as certain other irritants have a special effect upon certain skins, so have certain soaps. It would, I suppose, be dangerous for me to name the soaps which I have proved to be responsible for dermatitis in certain individuals, but there is hardly any soap which may not be irritating to some. Quite recently I saw a washerwoman who had followed that vocation for twenty-five years without any unpleasant results. Tempted by the advertisement of a soap which promised great diminution in the washerwoman's labours, she purchased a supply and did her washing with it one day. On the following day her arms were covered with acute dermatitis. I do not specifically blame the soap, I only assert that to her *that* soap was a poison, and at my advice she has resumed her old soap and her old labours without any bad effect. This point is well worth noting; often a change of soap will lead to the disappearance of a dermatitis on the hands.

It seems almost superfluous to refer to the fact, but I have met cases of "eczema" of the hands in persons who were ignorant of the fact that the chemicals used in developing photographs often produced dermatitis. Of course, in the enthusiastic amateur such ignorance is unlikely. But photog-

raphy plays an important part in many businesses, and sometimes the principal will develop a negative which he wishes no other eye to see. This may happen so rarely that the patient does not connect his attacks of "eczema" with the developing, and the doctor, not associating the profession, say of an engineer or an architect, with the actual work of photography, omits to think of the possibility.

But by far the most frequent cause of dermatitis of these regions is the exposure to the irritation of plants. The matter has been already alluded to under dermatitis venenata, but it is so important that the recording of a few cases will drive home the connection. The *Chinese primrose* is the plant which is most commonly responsible in this country, and it is astonishing what a depth of ignorance and an obstinacy to conviction exists on the matter. The most interesting case of this which has come under my notice was that of a lady whose doctor, when telephoning me to make an appointment, mentioned that she was suffering from primula dermatitis. I suggested that if that was so was there any object in the consultation? He replied that the lady was anxious to lay before me the particulars of her case. They were as follows:—Her green-house was her favourite hobby, and she devoted much time to it. Many years ago she was attacked by what was called eczema of her hands. After treatment for some time at home without benefit she was sent to Harrogate, where she immediately recovered, and returned home with great faith in Harrogate. A few days after her return home the eczema reappeared, and she was sent to another health resort with equally successful results, and equally disappointing ones when she returned home. She kept this up for a time, visiting health resort after health resort, always with the same results, until at length her faith in the medical profession broke, and she determined to stay at home and "thole" her trouble. One day her gardener came to her with a cutting, creased and dirty, from the *Gardener's Magazine* and said, "I was wondering, Miss —, if this might have anything to do with your trouble." The cutting contained an account of the then recently recognised fact that the Chinese primrose produced eczema of the hands. That afternoon every

Chinese primrose in the green-house was committed to the flames, and for fourteen years she remained free of eczema and her green-house of Chinese primroses.

The history of her fresh attack was specially interesting. She had visited a fellow-enthusiast, with whom she had spent some hours in the green-house. That evening she felt on her face the old sensations she once knew so well, and immediately telephoned to her friend to ask if she had in the green-house any Chinese primroses. It was discovered that close by where she had been standing, concealed by other plants, was one of these graceful but dangerous plants. This is not the only case which I have met with where actual contact could apparently be excluded. The good lady was very proud of her discovery, and was anxious that her sufferings should be used for the benefit of others, and she gave me a most interesting account of another case. She was paying a visit to an old school friend who was married to the Head of a large public school. This worthy gentleman was commonly regarded as a martyr to gouty eczema, and he spent some weeks every year at Wiesbaden for the purpose of washing out of his system the poison of gout. My patient, full of her new knowledge, noted that in the corridor connecting his house with the school there stood a number of Chinese primroses, and that in passing to and fro he repeatedly stopped to pick from the plants their withered leaves. Everyone does this. She mentioned to him her suspicions, and they were received as one would expect such suggestions to be received by a headmaster who was a "martyr to gout." But the continuance of the attacks, and the arguments of his wife that after all there could be no harm in humouring the visitor, led to the exclusion of primroses, the disappearance of the gouty eczema, and to the headmaster spending his holidays in England.

I could relate many similar stories illustrating the results of the common ignorance of the dangerous effect of this plant. The instances already given indicate the sort of dermatitis, and the sort of history generally associated with the dermatitis, which is produced.

There are, however, many plants not so common as the

primula which produce dermatitis, and many more common ones which do not so commonly produce it.

The *Humea elegans* is, I am informed, mostly used for decorating the platform at public meetings where such decorations are considered necessary. It is a tall, graceful plant with a red spiky flower, and produces a most violent dermatitis upon the exposed parts of those who have been in contact with it. The irritation is most common among gardeners, but no doubt some cases of acute eczema, which have been attributed to the heat of a political meeting and an outburst of gout, are due to contact with this decorative plant.

Every case of dermatitis of the face, neck, and hands, especially those showing an irregular or erratic course, should be the subject of the most rigorous investigation.

Eyelids.—Eczema in this situation usually occurs in strumous children, who often at the same time suffer from other diseases of the eye. The pustular form of the disease is the most common, and crusts and scabs anchored by the lashes tend to increase the irritation. The crust must be removed by the liberal application of ointment. Allan Jamieson recommends as the best basis in such cases:—

R	Lanolini.	.	.	.	.	.	.	5j
	Ol. Amygdal. dulc.							
	Aquæ	.	.	.	.	.	.	āā 5ss

The parts should be bathed with a mild antiseptic lotion (boric acid) several times a day, and in obstinate cases applications of silver nitrate (1 per cent.) or caustic potash (grs. x to ʒj) may be tried.

The irritation is in rare cases set up by the presence of the pediculus pubis.

The eyebrows may be the seat of a similar eruption, though inflammations in that region are usually seborrhœic. The local treatment in all these cases will fall short of success unless means are taken by tonics, good food, fresh air, etc., to improve the general condition of the patient.

Lips.—A dry scaly eczema is not uncommon about the lips, and is sometimes due to a dentifrice which, harmless to most, is irritating to some skins. There are very few of the familiar

signs of inflammation, there is little redness, and no exudation. It will often be found that in such cases there is some disturbance of digestion, and an acid and bitter tonic often does more good than the most skilful combinations of local treatment. Cold cream or Lassar's paste with 10 grains of salicylic acid will hasten the cure.

Cheilitis.—The red part of the lip is sometimes the seat of an inflammation exceedingly chronic, uncomfortable, and unsightly. Sometimes crusts and fissures form, and bleeding is frequent. Another form of cheilitis (*Χείλος*—the lip), of which I have seen several instances, consists in the development on both upper and lower lips, especially the lower, of small translucent vesicles not unlike the "sago grains" of cheiro-pompholyx. When pricked these give exit to a considerable amount of clear fluid. Sometimes a number of superficial pustules are also present. This variety is associated with a good deal of thickening, and often eversion of the lip, most disfiguring to the appearance. Mild remedies are useless; a cure can only be obtained by steady persistence in the use of active measures. I have treated several cases successfully with bi-weekly applications of pure carbolic acid, precautions being taken to prevent it running on to unaffected parts. Should it prove inefficacious in any case I would not hesitate to iron the surface with the thermo-cautery at a dull heat, the patient being, if necessary, anæsthetised.

In some cases that part of the upper lip immediately beneath the nostrils is the seat of a moist inflammation usually accompanied by considerable œdema. Such cases are due to the irritation of nasal discharge, often almost unnoticed, and no amount of local treatment will be of the slightest benefit unless the nasal catarrh is treated. Simple catarrh is usually soon cured by syringing the nostrils with a weak boric lotion (grs. iv to ʒj). If more serious conditions are present they must be appropriately treated. The local treatment is of secondary importance. Lassar's or some other paste may be applied.

The **beard region** of the male is often attacked. The process is the same as on other parts, but descends here and there into a follicle, and leads to the production of pustules,

which render both diagnosis and treatment more difficult. The diseases with which it is most likely to be confused are impetigo contagiosa, sycosis, and ringworm. Impetigo is an acute disease. The lesions develop very rapidly, and the superficial position and honeylike appearance of the crusts generally enable this disease to be easily recognised. Sycosis is especially located in the hair follicles, and is pre-eminently a pustular dermatitis, though the skin between the pustules is often in a condition of "eczema," and indeed it must be admitted that it is not always easy to differentiate between the two. The late M'Call Anderson grouped the two together as *eczema capilitii*. In ringworm of the beard the nodular character of the lesions is so prominent that it is usually easily identified. For the efficient treatment of eczema of this region the removal of the beard is essential. If shaving is objected to, though it is generally not so painful as expected if the part is freely lathered, the hair must be closely clipped with scissors, or a depilatory may be used. The safest of these is a cream made by adding water to equal parts of oxide of zinc, sulphide of barium, and powdered starch. This is applied to the part for about ten minutes, and when wiped off brings the hair with it. Only those hairs which pierce the centre of pustules should be epilated, and salicylic acid (grs. xx) combined either with sulphur (grs. xx) or hydrarg. ammoniat. grs. v to x in vaseline or zinc ointment 3j, should be well rubbed in two or three times a day.

Medicated soaps, such as sulphur-camphor, or boric acid, should be used for shaving, and the lather should be thoroughly rubbed in before the operation. It is essential that an ointment be applied immediately afterwards, otherwise the inflammation may be aggravated by the shaving.

Neck.—The nape of the neck is often attacked simultaneously with the flexor surfaces of both arms, by a papular form of eczema. The rapid development and the simultaneous appearance in such widely separated situations certainly suggest causes other than local, and disorders of other organs should be sought for. The local treatment is that of papular eczema generally.

Sometimes the nape of the neck is the seat of a chronic

infiltrated patch of eczema, especially in women about the menopause. Such cases are best treated by the application of Lassar's paste, with grs. x to xx of salicylic acid or nargol, weak tar ointments, or tar varnishes. Sometimes they prove very obstinate, and require blistering or other such heroic remedy. X-rays are sometimes useful.

Trunk.—The more common forms of eczema in this situation are the erythematous and papular. Moist weeping eczemas of the trunk proper are rare. Most of the eruptions in this region are seborrhœic.

The **nipple** is often attacked by eczema in chlorotic, and especially in nursing women. There is a good deal of infiltration, deep exudation, and fissuring. A salicylic paste is often useful, and in obstinate cases benefit often results from the application of a strong solution of nitrate of silver in spt. æth. nitros. Some cases do best on starch poultices. Unless the inflammation is very slight, nursing should be abandoned. In all cases of chronic dermatitis of the nipple the possibility of Paget's disease (*q.v.*) should be considered, and if eczema occurs on one nipple of a woman over forty-five it is always advisable to have a second opinion as to its nature.

Eczema of the **umbilicus** is, on account of the infolding of the skin, apt to prove obstinate. Ointments should be well rubbed in, some should be applied on lint, and a pad of wool should be strapped over all to ensure as thorough application of the drug as possible. In very obstinate cases nitrate of silver or caustic potash solution (1 to 10) may be painted on occasionally.

Axillæ.—A dermatitis may be set up by the decomposition of secretions, and presumably may arise from unknown causes, although most inflammations are due to seborrhœa (*q.v.*) In the tropics ringworm is not uncommon in this situation. Treatment must be suitable to the form which the eruption takes, but two circumstances must be kept in mind in treating diseases in this situation: first, that the excretion of sweat is very free, and thus applications are very soon washed away; and second, that the shape of the cavity makes it difficult to keep lint spread with ointment in contact with the diseased surface.

The free excretion renders it desirable to use stronger applications than one would otherwise employ, and points to the use of pastes and powders singly or in combination. The difficulty of application is overcome either by the use of salve muslins, cut in small pieces, or by the following device—after applying strips of cloth spread with ointment to the part, a lady's dress preserver, with a pad of wool between the wings, is fixed in position with a turn of bandage.

Boils are very apt to form in this situation, and the first evidence of suppuration should be the signal for antiseptic bathing and the application of dilute hydrarg. ammoniat. or some other mild antiseptic ointment.

Genital Regions.—Reference has been made under the heading of *Pediculosis pubis* to the mercurial dermatitis so often associated with the too vigorous treatment of that condition, and the possible occurrence of the rare disease known as *erythrasma* (*q.v.*) must be kept in mind. The scrotum and the skin of the thighs in contact with it are often the seat of a very painful and distressing form of *eczema*. The type generally followed is the erythematous, but the anatomical peculiarities of the skin in this situation impart to it special characteristics. The skin is intensely red and swollen, and from the loose nature of the tissues beneath, the exudation extends deeper than usual, and the parts are often enormously enlarged. The surface is usually moist, and the warmth of the part leads to decomposition of the excretions, which gives rise to a peculiar sickly odour. The contraction of the smooth muscles of the swollen skin causes a great deal of pain, and patients suffering from this form of *eczema* are usually low in health and still lower in spirits. The eruption on the adjacent skin of the thighs is usually papular.

TREATMENT.—Generally speaking, lotions are the best method of treatment. While soothing ones (zinc, calamine) are the safest, the lead and tar lotion is in suitable cases more rapidly successful; it should be applied very much diluted at first. As the discharge diminishes, grease may be added to the application. Carron oil (*Ol. lini, aq. calcis, āā pts. æq.*) may be applied on lint, and for the drier stages, salve muslin (zinc ichthyol) or Hebra's ointment (*Empl. plumbi, vaselini, āā pts.*

aq.) spread on thin rags may be used. If the itching is intolerable, nitrate of silver (grs. xv) in spt. ath. nitrosi ʒj may be painted on; this is very painful for the moment, but forms a skin over the part, and certainly diminishes irritation for a time. Strong tar tinctures, such as Baidon's liquor picis, often work wonders, but must be used with caution. Crocker recommended the application of a mustard leaf over the lumbar region. Bathing with very hot water, or the application of a hot sponge, is sometimes of value. Free purgation sometimes does good, but drugs have little if any influence on this form of the disease. Rest in bed is often necessary.

It is very important in this, as indeed in all eczemas, that every trace of the disease should have disappeared before treatment is abandoned.

When eczema attacks the female genitals the possibility that it is due to diabetes must be first considered, and vaginal and uterine catarrh must be sought for and treated if present. Otherwise, in its form, course, and symptoms, it closely resembles the disease on the scrotum, and the same treatment is generally applicable.

Anus.—When the skin in this region is inflamed the parts should be carefully examined for hæmorrhoids, fissures, and parasites. When any of these are present their cure is usually followed by the disappearance of the inflammation. Many cases, too, are due to a catarrh of the anal canal, the constant irritation of the discharge producing and keeping up a catarrh of the skin. For this condition I know of nothing so useful as the introduction into the canal nightly, or every alternate night, of a suppository of 10 grains of zinc oxide.

Eczema in this situation is usually papular and infiltrated, the skin being sometimes almost leathery in texture. The heat and moisture of the part favour the growth of organisms, which find in the inflamed skin a *locus minoris resistentiæ*. There is usually intense itching, and patients have an anxious, careworn expression, often suggestive of some much more serious disease.

As already stated, some digestive disturbance is often connected with such cases, and these functions should be inquired into. The bowels should be regulated, but free

purgation is to be avoided. Laxatives, not purgatives, should be prescribed. The parts must be kept scrupulously clean by the use of *plenty of soap and hot water*, special care being taken to wash away all the lather of the soap. After washing it is desirable to lubricate the part, so as to minimise the drying effects of the washing. A paste consisting of Magnes. carb. lev. ʒiij, vaseline ʒv, is often useful, and so is Lassar's paste, with 5 grains of salicylic acid to the ounce. The intense itching may be moderated by the application of weak tar or carbolic acid lotions. The strength of the tar may be gradually increased, and in some cases it may be painted on pure. If these comparatively mild methods fail more active ones must be employed. Pure carbolic acid may be painted on, caustic potash solution may be applied (p. 133), or, with the patient under chloroform, the diseased surface may be ironed with the Pacquelin cautery at a dull red heat. This is by far the most efficacious treatment, though patients are naturally desirous of trying milder measures first.

The application of the high-frequency current by means of a vacuum electrode is said to have been successful.

Legs.—Eczema on the thigh presents no special peculiarities. It is usually papular in form. The term *eczema marginatum* is applied to the eruption of ringworm in the genito-crural regions. It often extends down the thigh (see Ringworm). The flexures of the knees are often the seat of a papular, infiltrated, fissured eczema. This usually itches severely, and as hardly any part of the body is so favourably situated for scratching, the disease is usually very persistent. Fortunately it is surprisingly tolerant of treatment, and strong applications may be used. Salicylic acid (5 to 7 per cent.) or tar (ʒj to ʒj) may be applied in ointments; a good scrubbing with soft soap usually does good, and Hebra's caustic potash treatment may be used with advantage in obstinate cases.

Eczema below the knee owes most of its peculiarities to congestion of the skin. Once started, an inflammation here is delayed in healing by the stasis of the blood, which is, of course, most marked where there is varicosity of the veins. Consequently, eczemas of the leg are usually intensely red and moist (*eczema rubrum*). Slight injuries, which in the

healthy would be unnoticed, may be the starting-point of a varicose ulcer, with all its complications. In less severe cases the congestion only interferes with the final stage of cure, and a scaly form of the disease may persist indefinitely.

Rest is of primary importance. While retirement to bed with the feet elevated is the ideal, it is fortunately not the only method of giving rest to the skin, for to working people the advice to go to bed for some weeks is a mere "counsel of perfection." Unna's zinc gelatine is an excellent substitute. It should be made stiff by using equal parts of zinc oxide, gelatine, glycerine, and water. This contracts as it sets, and by its supporting pressure forms a wonderful rest for the skin. Hebra's ointment spread on strips of cloth, and applied after the fashion of the many-tailed bandage, is more useful in the moist stages of the disease, while in the drier ones Pick's salicylic soap plaster is excellent. From 2 to 5 per cent. of salicylic acid is melted with the soap plaster, which is spread on butter cloth and hung up to dry. Strips of this, overlapping each other, are then applied to the limb. The first dressing should be renewed in twenty-four hours, but subsequently the intervals may be lengthened up to as much as a week. This method is both efficient and cheap. In the slighter scaly forms the application of strips of lint soaked in equal parts of cod-liver oil and oil of cade is often useful, the tar relieving the itching. Rest and support are the essentials; the simple application of ointment is almost useless.

Arms.—In all eczemas of the arm an inquiry into the patient's occupation should be the first step. Then scabies should be considered, and lastly the fact that lichen planus specially affects this situation. These being excluded, one may fall back on eczema and symptomatic treatment.

Hands and Feet.—Cheiropompholyx, which some still regard as an eczema, has already been dealt with, and scabies is of course by far the commonest "eczema" of the hands. The skin over the first metacarpal is often the seat of a patch of seborrhœic eczema.

The eczema which attacks the palms and soles owes its characters to the anatomical structure of the skin of these

situations. The horny layer is especially developed and resistant, consequently the exudation does not readily make its way to the surface, but diffuses itself through the thick layers, which are afterwards separated in large thick flakes. The skin beneath is sodden, and deep fissures extending down into the true skin are of common occurrence.

A late scaly syphilide sometimes attacks the palm. Scarring is not so obvious as in most of the tertiary lesions, and the diagnosis is often difficult. As a general rule the later specific lesions are unilateral, while, unless for some special reason, such as the patient's occupation, eczema is bi-lateral. The specific lesion commences in a central spot, and clears up in the centre as it advances, while eczema in this region is usually worst at the centre, and fades away gradually at the periphery.

Our object in treatment is to remove the horny armour which covers the surface and prevents remedies from reaching the disease. This is best done by the application of Pick's salicylic plaster (5 per cent.). Strips of this should be closely applied, and changed daily. The parts may be bathed in alkaline solutions, and in very obstinate cases soft soap may be applied as a dressing. When the thickened skin has been removed, salicylic ointments (3 to 5 per cent.) will generally complete the cure; strong solutions of tar (see p. 25) are often more useful. These may be painted on every night, provided no irritation follows, and in my experience cases recover more rapidly under this than any other method. If, however, after the removal of the scales, vesicles tend to appear on a tender reddened skin, less active methods must be employed. Lassar's paste, with 10 grains to the ounce of salicylic acid or resorcine, should be rubbed in two or three times daily. The salve stick (p. 29) is very suitable for such cases, as it can be carried in the pocket and used at odd moments.

SEBORRHOEA (AND SEBORRHOEIC DERMATITIS)

(*Sebum* or *sebum*—*suet*, and *ῥέω*—*I flow*)

There is still a good deal of difference of opinion on this subject, and it hardly seems advisable to confuse the student

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SEBORRHŒA CORPORIS.

with long arguments for and against conflicting theories. It is a mere dialectic device to point triumphantly to the derivation of the word, and claim this in support of any theory, for those who were responsible for the coining of the term were under the impression that the scales of seborrhœa were the dried secretion of the sebaceous glands, which they are not. Seborrhœa should, I believe, be looked on as a specific form of inflammation of the skin, which in its commonest form is familiar as dandruff of the scalp. And I regard the seborrhœa of Sabouraud, as indeed he does himself, as the initial stage of acne.

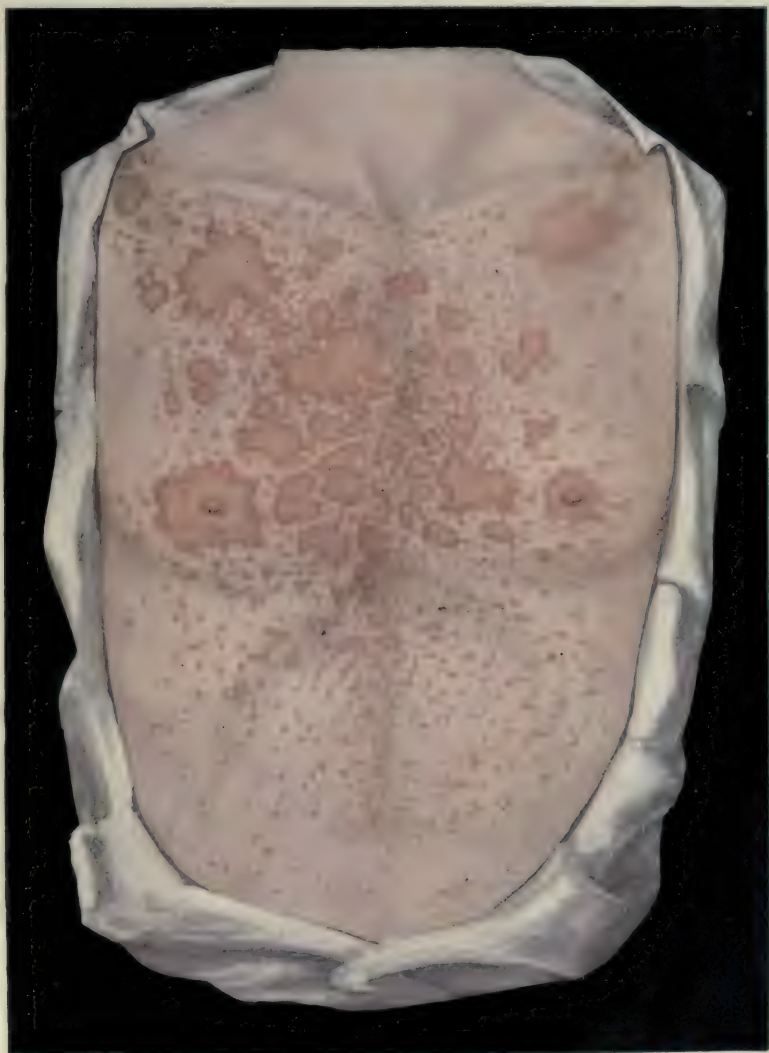
Although the commonest form of the disease is ordinary scaly dandruff, there are others nearly as common in which the amount of oily secretion is present in such excess as to anchor the scales to the scalp, so that on superficial examination there appears merely a diffuse yellow discoloration, the true nature of which is only disclosed by scratching. The scalp is not reddened; any disturbance is limited to slight itching. In the majority of cases the disease does not extend further; usually there is gradual thinning of the hair, but as a rule none of the ordinary signs of inflammation are present. Exceptionally, however, on the scalp, and invariably when the disease spreads to other parts of the body, the more familiar signs of inflammation appear.

It seems difficult for some to absorb the fact that processes so apparently different are in reality one and the same. Yet if we take a familiar disease in which the cause is definitely known, the same phenomena are noticed. In ringworm the affection of the scalp is a *dry scaly* one, with hardly any of the ordinary signs of inflammation. If the disease is inoculated on some other part of the body, then there appear the redness, swelling, and exudation, which convince everyone of its inflammatory nature. Other less common diseases illustrate this tolerance of the scalp to irritation, as also does the fact that the scalp will stand more concentrated remedies than any other part of the skin. Occasionally the more familiar signs of inflammation develop, just as they do in ringworm when they lead to the production of kerion. The skin becomes red and swollen, and fluid in varying amounts exudes from its

surface. This cakes the scales together, and they form a covering which to some extent arrests the discharge, and this decomposing adds to the irritation. This condition is known as seborrhœic dermatitis of the scalp, the *eczema capitis* of the older authors.

In cases of this severity, however, and in many others which do not reach such a degree, the eruption is not limited to the scalp. When the scalp is inflamed the eruption tends to spread *on the forehead and behind the ears*. Even in the absence of evident inflammation of the scalp these regions are not infrequently affected, and then the change in the type of the disease is at once seen. Instead of a simple dry catarrh, without any evident hyperæmia, the skin appears red and swollen, and covered with vesicles and exudation. Perhaps more frequently in cases where the head is not inflamed, the extension is to the face (see Rosacea), the sternal region, and the interscapular region. On the chest it was long dignified with a special name, *lichen circinatus*, or *marginatus*; and Duhring, of Philadelphia, was the first to point out its seborrhœic nature, and to describe it as *seborrhœa corporis*. Here the signs of inflammation are evident enough. Commencing in small red spots, the disease rapidly spreads, in rings or circles, which have a very characteristic appearance. The border may be occupied with papules and vesicles, the centre is of a reddish yellow colour, and the surface is greasy. A few moist scales may be present. This form is well illustrated in the Plate opposite. The disease in the interscapular region, where it is less frequent, presents similar characters. Other favourite situations for the typical seborrhœic dermatitis are the flexures of the knees and elbows and the axillæ and groins, where the yellow greasy character and the tendency to rapid gyrate spread are specially prominent.

The disease is by no means limited to these situations. It may extend to any part of the body, and to a great many parts at one and the same time. The characters vary; sometimes the spots resemble those on the sternal region, papules and vesicles being present. Sometimes the eruptions are crusted, and most frequently *scaling* is the most prominent characteristic. Usually the spots have the same yellow colour as the centre of the patch



SEBORRHEA CORPORIS

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PITYRIASIS RUBRA SEBORRHOICA.

over the sternum, but, as the moisture in them decreases and the scale consequently dries, the less evident is the yellow colour, and the lesions become indistinguishable from those of psoriasis. This is specially the case upon the extensor aspects of the limbs, where the skin is thicker and more resistant to irritation. Occasionally the spots are so numerous and spread so rapidly as to cover almost the whole surface of the body, and when this is the case the disease sometimes alters its character. The infiltration of the skin disappears, the disease takes on the character of general exfoliative dermatitis (*q.v.*), and is described as *pityriasis rubra seborrhoica*. The Plate opposite was taken, a fortnight later, from the same patient as the preceding Plate.

The disease affects all ages and both sexes. In infancy, seborrhœa is appallingly common, and there is little doubt that if it were then more thoroughly treated there would be fewer cases in after life. In infants, this, in common with other diseases, tends to moisture and suppuration, and this possibly accounts for the statement that psoriasis is practically never seen in children under seven. Sex has apparently little bearing on the disease, although males are said to be more frequently affected than females.

HISTOLOGY.—Microscopic examination shows very much the same changes as those described under eczema (p. 121). Parakeratosis or irregular cornification is always present, and usually a very prominent feature, and epithelial growth and moisture are also found.

NATURE AND CAUSE.—In all likelihood seborrhœa owes its origin to a specific organism. Organisms of so many kinds abound in the scalp that it is not easy to definitely identify the real offender, and the several candidates each have their supporters, while many observers vote against them all. The matter requires, of course, much further investigation, but although we do not know definitely the cause, we know, I think, enough of the nature and course of seborrhœa to justify us in separating it definitely from eczema.

DIAGNOSIS.—In this connection the different parts of the body must be considered separately. It is practically impossible to distinguish between seborrhœa and psoriasis of the

scalp. Occasionally psoriasis is found in patches on the scalp, but as a rule the eruption is diffuse, and probably many of those who claim to distinguish between the two conditions are influenced by the results of inspection of other areas.

The disease which is most likely to be confused with seborrhœa of the scalp is ringworm, and in children it should only be after a very careful search that seborrhœa is registered as the diagnosis. The effects produced by the irritant, the fungus in one case, the still undetermined organism in the other, are practically the same, namely, a mild degree of inflammation which results in scaling, and it is often only the discovery of broken hairs and the identification of the fungus which enable one definitely to separate the two.

On the face, seborrhœa sometimes simulates lupus erythematosus. The scales of seborrhœa are yellow and greasy, those of lupus erythematosus are greyish and dry. When the scale of seborrhœa is removed the mouths of the glands are often seen gaping as in lupus erythematosus, but in that disease the under surface of the scale is beset with little projections drawn from depressions in the skin. The commonest seat of seborrhœa, after the forehead, is just above the *alæ nasi*. Lupus erythematosus is most common on the bridge of the nose and on the cheeks.

On the body, most stress should be laid on the greasy yellow character of the early spots. The earliest redness is often described as of a salmon colour, but it is the yellow tint in the colour which is most characteristic.

Among those diseases with which seborrhœa is commonly confused are:—

(1) *Pityriasis Rosea*.—The distribution is usually different, and the spots themselves show distinctive characters. Those of pityriasis rosea often have a rosy red border not elevated above the surrounding level, and the yellow surface usually has a dry and wrinkled instead of a greasy appearance. The history, too, is quite different (see p. 169).

(2) *Syphilis*.—The important point to determine here usually is, not which disease is present, but whether both are. The syphilitic eruption which resembles seborrhœa is not the early roseola, but a later rash, which is really a combination

of syphilis and seborrhœa, sometimes unfortunately termed syphilitic psoriasis.

In a very large proportion of cases the *feeling* of the spot is conclusive. If the finger be passed pretty firmly over one of the spots, the syphilitic one gives to the observer the sensation of something present *beneath* the skin, as well as *on* and *in* it. In seborrhœa the increase is in the epithelial cells, which are heaped up on the surface. When syphilis is present we have in addition a new growth in the true skin, a multiplication of the connective tissue cells. Other signs of syphilis must, of course, be sought for.

(3) *Ringworm*.—Especially in the genito-crural and axillary regions is ringworm imitated by seborrhœa. Both have a gyrate margin, both spread rapidly, and in these situations the centres of both have a yellowish tinge. Ringworm tends to have more vesicles and pustules on its borders; but the diagnosis is sometimes difficult, and a careful examination of the scales for fungus, and of the other parts of the body for further evidences of one or other disease, should invariably be made. Ringworm is much the rarer of the two diseases,—at all events in this country.

PROGNOSIS.—Seborrhœa on the scalp is so difficult to cure radically, that the prognosis is by no means invariably good. While the lesions on the body may easily be cured, there is always the likelihood, indeed the practical certainty, so long as the disease remains on the scalp, that any slight disturbance of general health, any local irritation of the skin, will be followed by a fresh outbreak.

TREATMENT.—No treatment will be successful unless it is thoroughly recognised that the *scalp* is the important factor in connection with the general disease. Treatment of the scalp is the Alpha and Omega of the treatment of seborrhœa and seborrhœic dermatitis. The most satisfactory way of removing the diseased products from the scalp is thorough washing with soap, preferably Hebra's soap spirit (R Saponis mollis $\bar{\text{z}}$ iv, spt. vini $\bar{\text{z}}$ ij). The head should be thoroughly shampooed with this at intervals, varying with the extent and stage of the disease. Thus if there is very little irritation the scalp may be washed daily; if there is obvious inflammation

the intervals should be longer. It is most important that all soap be thoroughly washed away with repeated fresh waters. Washing alone suffices to cure slight cases, but as a rule some further treatment is required.

The two drugs which have most influence on seborrhœa are *sulphur* and *salicylic acid*. They may be applied to the scalp in a more concentrated form than to other portions of the body. Little, however, is gained by commencing with too strong an application: 15 grains of each in an ounce of vaseline¹ should be tried, but the proportion may be considerably increased if necessary. During the prolonged treatment which is usually required the patient is apt to tire of greasy applications, and under any circumstances they are disliked by ladies. A salicylic lotion (℞ Ac. salicyl. ʒj-iv, ol. ricini ʒij-vj, ol. ros. geran. ℥x, spt. vini ad ʒvj) is a pleasant substitute. The amount of castor oil should be increased if the hair is dry, and *vice versâ*. Men can apply this by shaking a bottle with a perforated cork over the scalp, and then using a pair of brushes; ladies should use a spray with a long nozzle, so as to ensure the application reaching the scalp. Salicylic fluid vasogen is a cleanly and satisfactory way of applying the drug. It may generally be used as strong as 10 per cent., but it must be borne in mind that so strong an application, while acting beneficially upon the scalp, is by no means so well borne by the less resistant skin of the hand. Gloves should be worn when applying the ointment, and the hands must be washed immediately afterwards. Other drugs which may be used in the dry form of the disease are tannin or tanniform $\frac{1}{2}$ to 1 drachm to the ounce, resorcine ʒss-ʒi-ʒi, and pyrogallol ʒj to ʒj. This latter is sometimes exceedingly efficacious, and on the scalp it does not become so black as it does on other parts of the body. According to Unna, this is due to the more acid reaction of the excretions, which

¹ Veiel, in one of those many valuable practical contributions he has made to dermatological therapeutics, draws attention to the fact that vaseline is a non-saponifiable grease, and is therefore difficult to wash out of the scalp. It is true that pomades made with lard or some other base are more easily removed, and I sometimes order them, with a sort of mental regret for the other good qualities of vaseline.

prevents the reduction process. If the disease has gone further, and the scales have become moist crusts, while the skin beneath is reddened, then treatment must at first be less severe. The scales may be removed by soaking the scalp with oil. If the case is severe the hair should be cut, and the skin dressed continuously with some preparation containing sulphur and salicylic acid spread on lint. Like Leistikow, I have not found any great objection to the use of pastes on the hairy parts, and a prescription of salicylic acid and sulphur, āā grs. x, oxide of zinc ᄁij , vaseline to ᄁj , is often successful. As the moisture diminishes the amount of zinc in the prescription may be diminished also, and the proportions of the other drugs, if necessary, increased.

When the disease has spread to the body the treatment must be regulated according as the skin reacts with the formation of vesicles, scales, or papules. When it spreads directly from the head to the neck and behind the ears the eruption is usually moist, and for such a condition Lassar's paste with 5 grains each of sulphur and salicylic acid to the ounce is a very valuable application. Morris' prescription of 10 grains of sulphur to an ounce of zinc ointment is also often useful, as are the older remedies of plain zinc ointment and Hebra's diachylon ointment. The essential to success in the treatment of such cases is to keep the part constantly covered. Seborrhoea corporis, the old lichen marginatus, may be treated with ointments as strong as ᄁss to ᄁj of sulphur and salicylic acid to the ounce.

As the eruption takes a more and more scaly form, for some reason unknown sulphur appears to become less suitable, and in the driest forms, where much more active remedies, such as chrysarobin, etc., do well, even to irritate and aggravate the disease. The same is fortunately not true of salicylic acid, which may be used in the strength of 3 to 10 per cent., according as the eruption is widespread or limited, for strong salicylic ointments applied to large surfaces of the body are liable to be absorbed and to give rise to salicylic poisoning. The treatment of the very dry forms, which I regard as indistinguishable from psoriasis, will be found under that disease.

ROSACEA

The word *acne* in association with this disease is daily and deservedly losing its place. It was applied because pustules are very frequently found in *rosacea* which do have a certain superficial resemblance to those of *acne vulgaris*. The older books devoted much space to the distinctions between the two varieties of pustules, but they are easily compressed into the statement that in *acne* the comedo is the starting-point of the disease, and *is the centre of every pustule*, while in *rosacea* the pustules *are secondary* to the disease, and have *no necessary* relation to the sebaceous glands. Without going the length of denying a neurotic element in certain cases of *rosacea*, it is my conviction that the vast majority of cases are due to *seborrhœa*, and that *rosacea* is really a form of *seborrhœic dermatitis*. That the nervous system plays a rôle is likely enough; that stomach disturbances, etc., aggravate the condition is also true; but the real exciting cause of nearly every case of *rosacea* is *seborrhœa* of the scalp. The disease is due to the constant irritation of the skin produced by the deposition of the scales and organisms (?) of *seborrhœa*.

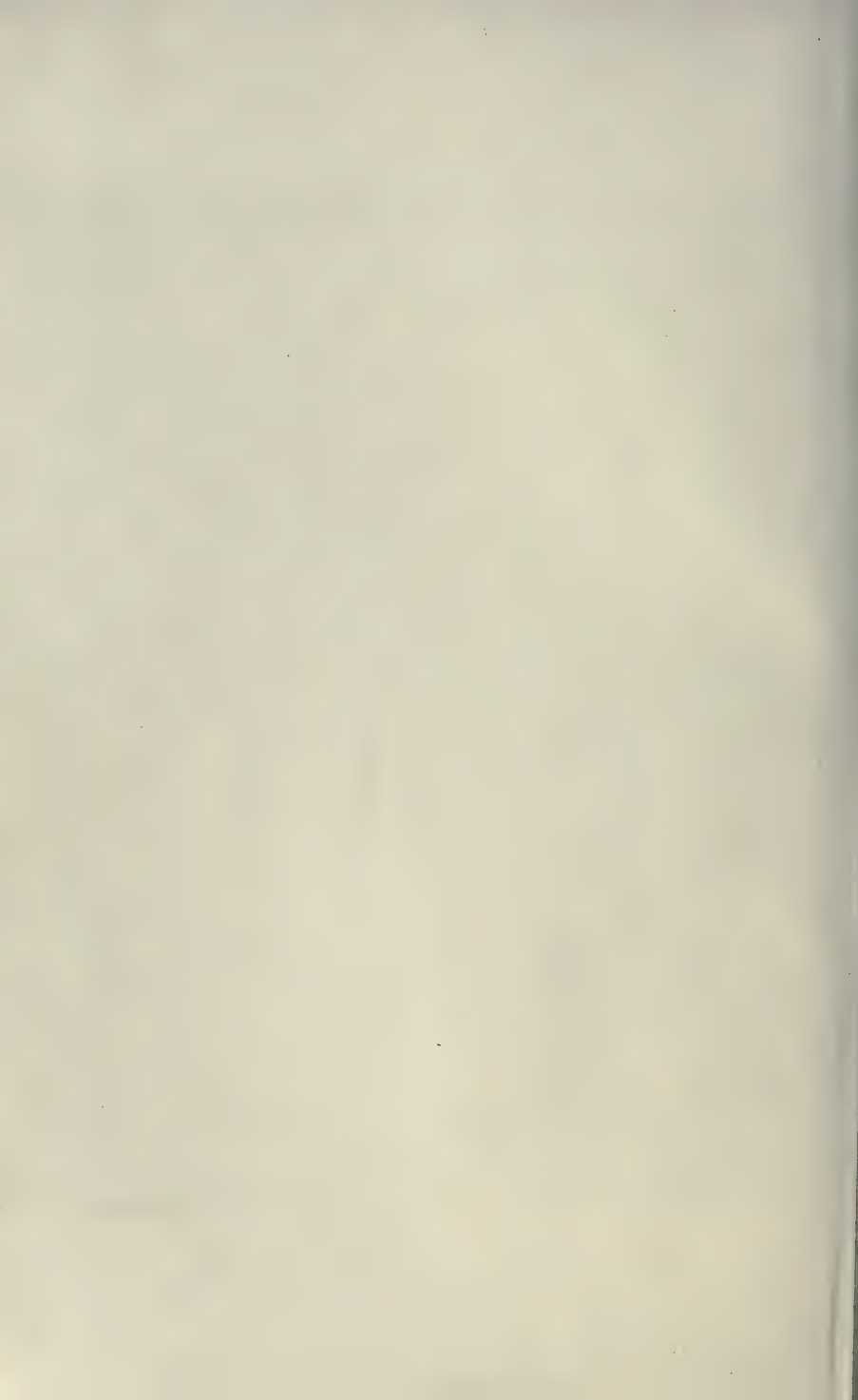
Rosacea is said to be commoner in the female than in the male, and here, possibly, the neurotic factor is important in providing for the organisms a favourable soil. The disease consists in an inflammation of the skin—a dermatitis which culminates at certain points in the development of small pustules, although these are not invariably present, in some cases the dermatitis not going beyond the papular stage. It affects especially the forehead, nose, cheeks, and chin—as shown in the Plate opposite. The hyperæmia keeps the skin in a constant state of hypernutrition, leading to the development of increased fibrous tissue, evident in the milder cases as simple thickening, and in the more severe ones as those hypertrophic, pendulous masses which go by the name of *rhinophyma* or *potato nose*.

The disease is often erroneously attributed to irregular habits in regard to alcohol; and undoubtedly alcohol, along with a good many other articles of diet, by its tendency to distend the cutaneous blood-vessels, does contribute to its

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ROSACEA.



development. But all must be familiar with at least slight cases of the disease in teetotal friends, and alcohol is only one of many factors. All the dyspepsias which lead to flushing, increase any latent tendency to the disease, and they have therefore a very intimate relationship with its etiology, treatment, and prognosis. But underlying all is seborrhœa; and the recognition of this and its appropriate treatment results in a greatly improved recovery rate.

The treatment of the disease therefore divides itself into two parts, local and general, and as the local is the more important it will be considered first.

LOCAL TREATMENT.—The seborrhœa of the scalp, which will be found more or less developed in all cases, in many in the anchored form described on p. 149, must be treated by frequent washings with soap spirit, and the application of a strong sulphur and salicylic acid ointment, or of salicylic vasogen or a pomade of tannic acid. Sulphur, in lotion, paste, or ointment, should be applied to the face. The choice of one or other of these depends on the amount of reaction and the greasiness of the skin. If there is much inflammation a lotion is to be preferred:—

R	Sulph. Præcip.	}	āā 3iij
	Calaminæ			
	Glycerini	. . . . .	3j
	Aquam ad	. . . . .	3iv

Sig.—Shake and paint on with a brush.

or—

R	Potass. Sulphid.	}	āā 3ss-3i
	Zinc Sulph.			
	Glycerini	. . . . .	3ii
	Aquam ad	. . . . .	3iv

Sig.—Paint on twice daily.

Sulphur has, in addition to its antiseptic effect, a certain action in constricting the vessels, an action which its relative ichthyol is said to possess in even a greater degree.

R	Ichthyol	. . . . .	3j
	Aquæ	. . . . .	3j

Sig.—Paint on twice daily.

If the amount of irritation is not very great the method

of shelling the skin with resorcline, described under Acne (p. 188), may be tried with good effect, but the soap and steaming treatment used in acne is not suitable in rosacea.

The dilated vessels are sometimes so numerous and so large as to be beyond the reach of drugs, and require mechanical treatment. Electrolysis is a handy method, the needle attached to the negative pole being introduced into the capillaries, and a weak current being allowed to pass until the blood in the vessel is coagulated. Confirmed by histological investigation, Unna uses in preference the fine point of his *microbrenner* (described under Lupus). It is used at a dull heat, and the blood in the vessels is coagulated as with the electric needle. Some slit up the vessels with a fine knife, while others occlude them by multiple scarification, and in skilful hands CO₂ snow might be useful. If the mouths of the glands are wide and gaping they may be stimulated by a touch of the needle of the *microbrenner*. In cases where there is great irritation a borocalamine lotion may be used for a few days, *e.g.*:—

R	Calaminæ	}	. . . . .	āā	z̄ss
	Zinci Oxidi				
	Ac. Borici	. . . . .			zj
	Glycerini	. . . . .			zj
	Aq. ad.	. . . . .			zvj

GENERAL TREATMENT.—The lines of general treatment in this disease are easily indicated. The patient must keep the system in the best of health, particular attention being paid to regularity of the bowels. In regard to diet, he must avoid *everything which experience has shown causes any flushing of the face*, especially all forms of alcohol, tea, spiced meats, and condiments. Probably curry is really much more harmful in rosacea than alcohol. I agree with Leredde that vegetarianism is worth a trial in obstinate cases. Violent exercise, unless the patient is in good condition, is undesirable, and undue exposure to the sun will, by producing hyperæmia of the face, aggravate the disease. If any patient were so foolish as to insist that he would only follow one or other line of treatment, internal *versus* external, there is no doubt that the external treatment is the one which would be followed by most improvement.

Rhinophyma.—While the milder forms of this may be treated as above described, well-marked cases are only amenable to surgical treatment. This is very simple, and consists in paring the nose down to any desired shape. The hæmorrhage is usually considerable, and the extensive raw surface left is a little alarming to one who is seeing the operation for the first time. But it heals with surprising rapidity, and one may generally promise the patient that a fortnight will see him able to face the world once more.

ALOPECIA SEBORRHOICA

Premature baldness, that gradual thinning of the hair which is so very much more common in young males than in the opposite sex, is invariably due to seborrhœa. It is interesting to note that those who suffer from seborrhœa and yet preserve their hair always have an abundance of oily secretion on the scalp, and their hair early turns grey. The great predominance of baldness in the male sex is probably to be explained by the more frequent visits to their barber, rather than by the wearing of hard hats, etc., for baldness is at least as common now as it was when these hats were more universally worn. Probably there would be less were it not for the prevalence of the tradition that washing of the scalp is injurious.

PROGNOSIS.—If left alone the condition steadily advances until all but a fringe at the sides and back of the scalp is lost. But steady, persevering treatment can arrest it at almost any stage, and generally brings about some improvement.

TREATMENT.—This is practically that already described under seborrhœa. In slight cases daily washing with soap spirit is enough for cure. It is incredible how long some people (cleanly people) are willing to go without washing their scalps. The applications vary with the cases. The salicylic lotion recommended on page 154 is very often suitable; salicylic vasogen is perhaps more useful, though less agreeable, and to either a small amount of cantharides may be added if desired. Cantharides has the power of promoting epithelial mitosis, and there are, therefore, grounds for the popular belief in its efficacy. It is, however, valueless

if used alone; the seborrhœa which is at the root of the disease must be the main object of our attack. Sulphur, resorcine, tannic acid, mercurials, pyrogallol, etc., may all be found suitable in individual cases, but perseverance is the essential ingredient in all prescriptions, and whatever treatment is selected must be pursued for many months.

PSORIASIS

ψώρα—the itch, or ψωρός—rough or scaly

Although I regard psoriasis as merely the extremely dry form of seborrhœa, this is by no means generally admitted, so I defer to the majority and give it a section to itself, though this involves some repetition. The disease requires little description; everyone is familiar with the dry silvery scales on the red circular patches and rings of psoriasis, and the accompanying Plate shows it in one of its commonest forms. While the silvery scales are usually prominent, there occur cases where they are not actually visible. In such cases they can be at once brought into view by lightly scratching the part with the back of the finger-nail. This as a test for psoriasis is of much more value than the old one of scratching off the scales with the nail and disclosing small bleeding points, for that phenomenon entirely depends on the vigour with which the part is scratched.

The disease affects both sexes and all ages, although it is most common in young adults, and is rare under seven years of age. It is generally described as being distributed on the extensor surfaces, and as being most marked upon the elbows and knees, where it is usually said to commence. It will be found, however, that a great many cases admittedly commence on the scalp, which is almost always affected—another argument in favour of its relationship to seborrhœa. When a section is examined the appearances presented are identical with those of the drier forms of that disease. There is proliferation of the epithelial cells, and the epithelial ridges are consequently thicker than normal, while the papillæ, being longer and thinner, reach more nearly to the surface than they

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PSORIASIS.

normally do. This is the explanation of the bleeding points: when the epithelium is removed by the finger-nail the papillæ are reached sooner than they are in healthy skin. The epithelial

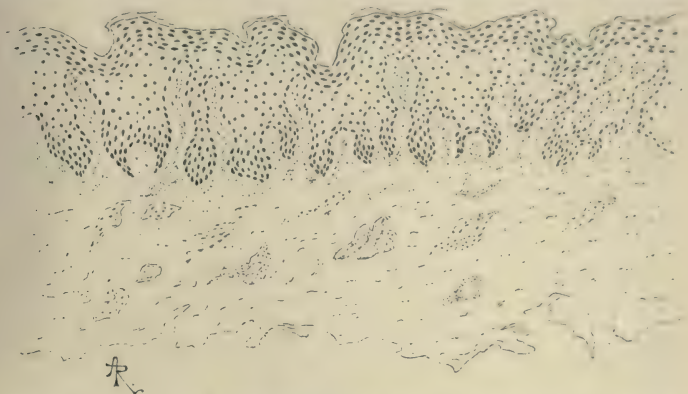


FIG. 31.—Psoriasis. Shows parakeratosis and thinning and lengthening of the papillæ. ($\times 75$.)

cells show very marked parakeratosis, the nuclei being preserved right up to the surface. As a rule patients do not complain much of itching; this symptom is most marked in acute, rapidly spreading cases.

DIAGNOSIS.—The difference between psoriasis and seborrhœic dermatitis is merely one of degree. From the moister forms of that disease it is easily enough distinguished mainly by the absence of evident moisture; the spots in the seborrhœic dermatitis have a yellower colour, and the scales are not of the dry powdery nature found in psoriasis. Distinctions are often drawn between psoriasis and the so-called syphilitic psoriasis, and rules for distinguishing between the two are formulated. There should not be much difficulty in this. There are two syphilitic eruptions which do somewhat resemble psoriasis. The rash in the secondary period is occasionally somewhat scaly; but there are certain points of distinction which should make the diagnosis easy enough. Firstly, the distribution. The syphilitic rash is more common on the trunk, while typical psoriasis is generally found more extensively on the limbs. The spots in syphilis are, as a rule, smaller and

more uniform in size than those of psoriasis. The colour in psoriasis is pink, while in syphilis it is a mixture of deep red and yellow. The lesions of psoriasis are uniform in character, those of syphilis vary more. Chiefly and most important of all, when the spots are felt there is in the syphilitic one *a feeling of growth*. One is conscious of the presence of something *under* the skin as well as *in* it and *on* it. This is the most useful of all the local distinctions. In addition, one has in syphilis other evidences of the disease; such as the affections of the throat and glands. It must, however, not be forgotten that a patient may have both diseases at the same time.

The other form of syphilis which may be confused with psoriasis is the *late scaly syphilide*. Sometimes very late in the tertiary period—it may be thirty or forty years after inoculation—the patient is attacked with a pretty widespread eruption, which does have a certain resemblance to psoriasis. The patches are scaly and spread in circles, or perhaps more often in ovals. There is, however, the very great difference that a scar is left, which is never the case in psoriasis.

A disease very frequently confused with psoriasis is *lichen planus*. Lichen planus is by no means an uncommon disease, but it is passed over with the briefest of notes in systematic lectures, while psoriasis has given to it possibly an undue importance. For a full description the section on Lichen must be referred to, but it may here be noted that the *initial* papule of lichen is not scaly, indeed, it is only in chronic cases where patches have formed that any marked scaling develops. Even then it is of a greyish colour, quite different from the silvery scales of psoriasis. A treated psoriasis is much more easily mistaken for a lichen than an untreated lichen for any form of psoriasis.

PROGNOSIS.—The prognosis of psoriasis as regards individual attacks is good, but the disease is exceedingly likely to recur. Indeed, if it is treated by itself, and all reference to seborrhœa ignored, it is absolutely certain to return; the importance of the treatment of seborrhœa and its bearing on the recurrence is one of the strongest arguments in favour of the identity of the diseases. Psoriasis may develop into pityriasis rubra, and then the prognosis becomes that of the

latter disease. Sometimes it disappears spontaneously, and almost all cases, treated or untreated, have their ups and downs, a fact which should be kept in mind in estimating the value of any new treatment.

HEREDITY.—It would of course be out of place to enter here on a discussion of the larger questions of heredity. Whether or not the appearance of psoriasis on the skin indicates that there has been inherited from some ancestor, more or less remote, a something which makes the skin more liable to the attacks of this particular disease, it is not my intention to discuss. The practical point is that one constantly meets patients suffering from the disease who firmly believe that they have inherited it, and it is beyond question that one not infrequently comes across it in members of the same family. This occurrence makes much more impression upon the observer than the many cases in which no such event was noted. As a matter of fact, the vast majority of cases of psoriasis have no traceable family connection. This is a matter to which I have given pretty careful attention, and I say definitely that not one case in ten turns out on thorough investigation to have descended. I was interested to find during a visit to Schinznach that Dr. Amsler, whose experience of psoriasis in the better classes is very extensive, held very much the same view. In the general interests, therefore, I think it wiser rather to minimise than to magnify the occasional occurrence. People fold their hands and sit down to the destiny of heredity in a way which does not contribute to the efficient treatment of the disease. I am not prepared to deny that there may not be some mysterious weakening of resistance in the skin which may be transmitted, but we know so little of it that I do not think it ought to be given much heed to, and when the question of marriage arises it may be ignored.

INTERNAL TREATMENT.—Many drugs are believed to have the power of influencing psoriasis. Only four will be here referred to:—

Arsenic.—In suitable cases there is no doubt that arsenic has a beneficial effect. It is its indiscriminate use which has led to its falling partly into disrepute. If the case is recent, if the spots are red and are increasing in number,

arsenic is certain to aggravate the disease. If, on the other hand, it has lasted for some time, if the spots have ceased to spread, if they are of a pale pink colour, and if none of them show any tendency to moisture, then arsenic, judiciously administered, will hasten their disappearance. The actual form of administration is not of very much importance. In this country Fowler's solution is usually prescribed; Kaposi administered it in the form of the so-called Asiatic pills, the formula for which is:—

R	Acidi Arseniosi	0·5
	Piper. Nigr.	5·0
	Gummi Arabici	1·0
	Aquæ q.s. ut fiant Pil. 100.	

Small doses should be given at first, and these should be increased until either the disease shows signs of remitting, or unpleasant symptoms are developed. In that case the drug should either be stopped or greatly diminished in dose. If it is continued in spite of the warning symptoms, the psoriasis will often apparently benefit, just as leprosy does under arsenic, but when the patient again regains his strength, so does the psoriasis. When the disease is improving it is enough to continue with the dose which has wrought that improvement. In rare cases, arsenic long continued produces a greyish pigmentation of the diseased areas. The use of the organic compounds of arsenic is referred to on page 14.

Salicylate of Soda.—This treatment was introduced by Crocker, and it is of undoubted value in some cases. Fortunately it is especially useful in those cases where arsenic is injurious. If the disease is spreading, if the spots are red, and if there is any tendency to moisture, it is to be preferred to arsenic. It should be given in full doses.

Iodide of Potash.—Iodide was first used in the treatment of psoriasis in Denmark. It is applicable in all varieties of the disease, but if it is to be used it must be given a fair chance. The doses requisite are enormously larger than we are in the habit of giving in this country, reaching to as much as a drachm or a drachm and a half three times a day. It is well to bear in mind that iodide of potash is a somewhat expensive drug,

and while admitting that it may do good, I do not feel that it is a method greatly to be recommended. One now and again finds a case which has proved obstinate to other treatment yield to the green iodide of mercury in doses of a quarter of a grain thrice daily. I cannot, I regret to say, give any other indication for its use, but I know that other dermatologists whose experience is much greater than mine have made the same observation.

Thyroid Substance.—I admit freely that under the administration of thyroid substance psoriasis does disappear, but I believe that the disadvantages and risks attendant on its use are by no means compensated for in a result which can be attained by many other less dangerous remedies. If it is to be given, the patient must be under constant medical supervision, and if it is to have a thorough trial the patient must remain in bed. I have seen enough of the disadvantages of thyroid to give an emphatic opinion that it should not be used as a routine treatment in psoriasis. Small doses of thyroid substance along with small doses of arsenic are, as noted by Ewald, often of much more value than either alone, and I generally prefer this combination.

EXTERNAL TREATMENT.—The description of this involves a certain amount of repetition, for the treatment of the disease on the scalp is of primary importance. The head should be thoroughly scrubbed daily with soap spirit, and an ointment of salicylic acid, half a drachm to the ounce, or pyrogallol, a drachm to the ounce, or salicylic valsol, 10 per cent., well rubbed in. For the rest of the surface, among many, three stand out prominently as the most efficacious. These three are chrysarobin, tar, and salicylic acid.

Chrysarobin is undoubtedly the most rapidly efficacious remedy in psoriasis. It is most efficient, however, when it is so used that the patient has to give himself altogether up to the treatment. The following is the method used in my wards in the Royal Infirmary. The patient has a bath, if necessary an alkaline bath, and in the bath scrubs off the scales with a nail brush. On coming out he is rubbed with a 5 per cent. ointment of chrysarobin in vaseline. More of the ointment is then spread upon lint and carefully applied

all over the affected areas from the neck downwards. This is renewed twice daily; it is unnecessary extravagance to use fresh lint on each occasion. It is most important that every patch be covered, so that all may march along together. The frequency of baths depends upon whether or not the scales re-form. So long as the spots remain bare, baths are not necessary. Owing to the well-known unfortunate effects which chrysarobin has upon the face and eyes, the patients wear during the day a linen mask, so as to prevent the accidental conveyance of the drug to the face, and at night a bandage is placed over the eyes. In two or three days the improvement is manifest, and in less than a week the skin presents a marked contrast to its former appearance, the diseased patches standing out yellowish-white against the inflamed surroundings. There is sometimes at this stage considerable discomfort, and the patients' complaints sometimes lead to the arrest of the treatment. The complaints are usually due to the considerable inflammation of the more sensitive parts, such as the flexures. Fortunately, these are less often affected by psoriasis, and may be protected by the application of a simple zinc paste. The chrysarobin treatment should be continued until the reddening of the diseased spots shows that the morbid thickening has been removed, and it is always well to go on a day too long rather than to stop a day too soon. The various stages are beautifully shown in the accompanying Plate, which is from casts by Dr. Low showing the same patches at different stages of the treatment. The linen surrounding number three shows the chrysarobin staining, which must never be forgotten; it certainly never is by a patient who has not been warned about it. All through the treatment a careful watch must be kept for any spot that has been lagging behind the others, and it must be brought up to the mark by vigorous scrubbing with soft soap or by applying to it an ointment in which 5 per cent. of salicylic acid is added to the chrysarobin. I have frequently used with good effect in such cases an ointment which was first recommended by Dreuw; it is of the grape-shot order, but I can testify to its efficiency:—

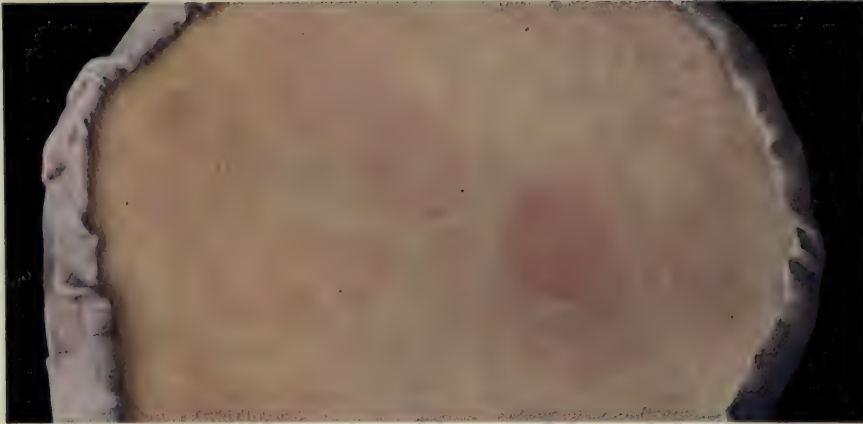
CHRYSAROBIN TREATMENT OF PSORIASIS.



BEFORE TREATMENT.



AFTER ONE WEEK.



END OF CHRYSAROBIN TREATMENT.

R	Chrysarobin	}	. . . . .	āā 20 pts.
	Ol. Rusci			
	Ac. Salicyl.	}	. . . . .	10 „
	Sapon. Virid.			
	Vaseline	}	. . . . .	āā 25 „

I find it still more efficacious when it is made up without the soft soap, which seems to hinder rather than to help the efficiency of the chrysarobin.

When all the spots have become inflamed I generally allow the patient to rest for one or two days in his old chrysarobin dressings, he then has a bath and the whole surface is inspected. If the method has been efficiently carried out, even very extensive cases can be cured in a little over a fortnight. If there are any suspicious patches I usually paint them with tar acetone. The common observation that the abuse of chrysarobin favours the development of pityriasis rubra should be kept in mind at this stage of the treatment. Unna's compound chrysarobin ointment (R. Ac. salicyl. 3, ichthyol 2, chrysarobin 5, vaseline 90) is useful in some cases, but the salicylic acid which it contains is a bar to the continuous use which I believe to be the most important element in the success of this rapid treatment.

The scalp has to be treated separately. The only form in which I ever apply chrysarobin to the scalp is that recommended by Hodara:—

R	Chrysarobin	. . . . .	5j
	Glycerini	}	. . . . āā 3ss
	Chloroform. Meth.		

This is very efficient, but it must be cautiously used. Generally speaking, one falls back upon salicylic acid, white precipitate, or pyrogallol in strength of from half to one drachm to the ounce. (See under Seborrhœa.)

Tar.—Tar is the safest of all remedies for psoriasis, and may be intrusted to patients of ordinary intelligence without their being under constant medical control. It may be applied in the form of an ointment (5 to 10 per cent.) to any part of the body, for it does not, like chrysarobin, set up facial œdema. An exception should be made with regard to the scalp

where tar ointment is an unnecessarily unpleasant method of treatment. The patient should take frequent baths, and in the bath the scales should be scrubbed off with soap and a nail brush, or he may be painted with pure tar before entering his bath; this is an efficacious method. Tar acetone (Tar 1, benzol 2, acetone 8) is a cleaner application than ointment, and I have come to place great faith in common gasworks tar. It has the great merit of cheapness, and if the brush with which it is applied is just dipped in the surface of the tar so that a very thin layer is applied, it is not nearly so dirty and unpleasant an application as one would imagine. Tar may also be used in the form of soap, the patient lathering himself freely with one or other of the numerous tar soaps. Equal parts of tar, soft soap, and spirit make a powerful remedy, and ichthyol tar soap is convenient. The lather must be well rubbed in and allowed to dry on, and the patient should sleep in a flannel night-dress. On one night a week the soap treatment should be omitted and plain vaseline applied. Tar poisoning only exceptionally occurs, but must of course be watched for.

Salicylic Acid is most appropriate to those cases which are not very widespread; for if the patient's skin be thin, absorption may take place, and the well-known signs of salicylic poisoning—drowsiness, and diminution in the amount of urine—develop. For limited cases it is a valuable remedy, and is probably best applied in vaseline in the strength of from 5 to 10 per cent.

Sulphur, which is so valuable in the moister conditions of seborrhœic dermatitis, is rarely useful in the dry forms of psoriasis. Indeed, cases which will stand without resentment such powerful remedies as chrysarobin and pure tar often seem intolerant of even small amounts of sulphur.

X-rays.—I must confess that I was at one time extremely sceptical of the accounts of the cure of psoriasis by exposure to the rays. I am still of opinion that as a means of cure they are not to be recommended. But there is no denying the fact that the eruption does disappear from the parts exposed; and when the eruption is on exposed parts, which it is important to rapidly cure, the rays may render real

service. Unfortunately, the disadvantages connected with the exposure of the face (loss of hair, etc.) make the treatment of little use for that situation; but the hands are very easily treated, and three or four exposures of ten minutes each generally suffice to remove the eruption for the time. I have seen nothing to support the statement that the exposure of one part in any way influences the eruption on other parts.

In very widespread cases, where large areas of skin are inflamed, infiltrated, and tending to crack, what we may call the specific treatment of psoriasis must be given up, and attention must be directed to soothing the skin by mild remedies. Hebra's ointment or zinc ointment should be spread on freely, and no more active treatment should be thought of until all these additional signs of irritation have disappeared.

PITYRIASIS

(πίτυρον—*bran*)

Pityriasis means scaliness, nothing more. The name indicates no relationship between the diseases so entitled, and the use of the simple term is merely a pedantic method of concealing ignorance.

PITYRIASIS ROSEA

Gibert's Disease

This is not such a rare disease as is generally supposed, for cases often pass unrecognised. A typical case runs a very clear and definite course. Without any previous symptoms there appears on the trunk, somewhere in the region of the waist, as the "herald" of the disease, a reddish yellow spot which expands into a patch, circular or oval in form, very little elevated, with a rosy red border and a dull yellow centre. The shade of yellow which forms the centre is sometimes described as fawn-coloured; frequently it very closely resembles chamois leather. Often enough this patch is entirely overlooked, and the first the patient knows of the disease is about a week later, when the whole trunk becomes covered with a

profuse eruption of spots similar in character though smaller in size than the original one. All of them do not expand into ringed patches; many remain as spots, and to this variety of the disease the name pityriasis rosea *maculata* (macula, a spot) is applied. When they do expand into circles the adjective *circinata* is employed instead. The Plate gives a good idea of a well-developed eruption; the narrow white collar or fringe of loose epithelium between the red and the yellow is particularly well shown. As is not infrequently the case, there was no definitely recognisable "herald" patch.

The eruption is usually limited to the trunk. A few spots may be found about the shoulders, and a few on the thighs, but it is rare on the face and on the distal ends of the limbs. Exceptionally, the eruption is limited to the limbs. In spite of the name there is often not much scaliness. If a circular patch is scratched with the finger-nail a certain amount of fine scaling may be produced, but it is rarely very evident. After a duration of from five to eight weeks the eruption gradually disappears.

DIAGNOSIS.—The diseases with which *P. rosea* may be confounded are syphilis, ringworm, and seborrhœa. A confusion with the first is the most frequent error; and as the disease disappears spontaneously in about six weeks, this is put down to the effect of the mercury which has probably been administered. It is needless to say that none of the other signs of that disease are present. There are no enlarged glands, no affection of the throat, and further, the eruption itself is flatter, and differs in colour from that of syphilis.

From ringworm, with which it was until recently confused by the Vienna school, it may be distinguished by the fact that there are no vesicles on the advancing border, by the sudden appearance of the eruption, and, negatively, by the absence of any fungus.

From seborrhœa corporis, which it often closely resembles, it differs, firstly, in its distribution. While that disease is common enough on the trunk it is also found on the scalp, face, and limbs. Further, the *border* of the lesion in seborrhœa is *more raised*, a few papules are often present, and there is a much *greater tendency to moisture and to scaling* than there is



PITYRIASIS ROSEA.

in this disease. The margin of the seborrhœal lesion is yellow-red, not rosy-red.

The cause is unknown. No organisms have been found which could be definitely associated with it, and there is no similarity in the patients whom it attacks, such as employment, age, sex, or the like. When a section is examined the possibilities of scaling are evident. Thus in the drawing (Fig. 32) the superficial layers of the horny layer have been partly detached in preparation, and are seen separated from the skin, although there was no visible evidence of this when the spot was removed from the patient. There are signs of slight proliferation of the epithelium, while the corium is rather more cellular than normal.

The disease gives rise to hardly any discomfort; a very mild degree of itching is complained of by some patients.

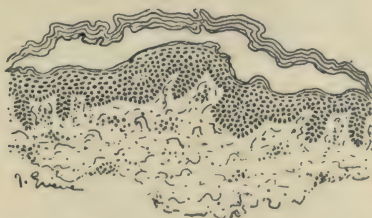


FIG. 32.—Pityriasis rosea. A little increase of the cellular layer of the epidermis, no granular layer. The increased horny layer which was closely adherent, was detached in preparation. A few leucocytes in the corium. ($\times 50$.)

This frequent absence of itching no doubt contributes to its confusion with syphilis.

PROGNOSIS.—This is always good; even if no treatment is applied the disease soon gets well, and there is no tendency to recurrence.

TREATMENT.—It is a common view that treatment does very little to hasten the disappearance of the eruption. That view I long taught and until recently shared. I have, however, learned from Dr. Allan Jamieson that it is erroneous, and that pityriasis rosea is more rapidly amenable to treatment than the majority of skin diseases. The patient should be soaked daily for half an hour in a bath to which two

or three spoonfuls of *Condy's fluid* have been added, after which *salicylic vaseline* (3 to 5 per cent.) is freely applied to the skin. In twenty-four hours there are usually marked signs of improvement, and in a week or ten days most cases are well.

PITYRIASIS RUBRA

Dermatitis exfoliativa—General exfoliative dermatitis

"Red scaliness" is a term which is applicable to a good many conditions, and the definition of pityriasis rubra varies in its extent according to the observer. Some only include under this heading the cases which correspond to the type described by Hebra, while others include cases which succeed widespread attacks of other skin diseases, and even cases which are generally classed as eczema. The discussion of fine distinctions would be out of place in such a work as the present, and while admitting that there are differences between the varieties, I propose to discuss them all together.

It may be taken, then, that the disease may arise either spontaneously, or may succeed one of several skin diseases. It is most common as a sequel of psoriasis; but it may follow eczema, lichen, dermatitis herpetiformis, or erythema multiforme, and apparently in some mysterious way develop out of any of these. The form of psoriasis which it most frequently follows is the moister variety, the more "eczematous" one, and such cases are sometimes known as *pityriasis rubra seborrhoica*. They are often directly traceable to the injudicious and too long continued use of chrysarobin. Even weak ointments of chrysarobin should not be continued for more than a month, and not so long unless under direct supervision. Usually the result is the transformation of the dry into a moist, weeping eruption, but in exceptional cases pityriasis rubra develops. The disease is characterised, as its name indicates, by intense redness and abundant desquamation, but perhaps its most prominent characteristic is a negative one, namely, the absence of infiltration and thickening of the skin. Although the patient looks like a boiled lobster, although shovelfuls of scales may be removed from his bed in the morning, the skin *feels* but

little affected. Commencing, when it does commence independently, as a number of small spots, the disease rapidly spreads until the whole surface of the body is affected. In connection with its development from any of the diseases mentioned, while frequently the history points to a misuse of chrysarobin or some other irritating drug, cases occur where in the course of a night the disease undergoes a complete transformation, and the patient who at one visit was suffering from psoriasis is at the next found to be the subject of a typical pityriasis rubra. The diagnosis should not be difficult, but it is so easy in the presence of redness and scaling to ignore the negative character of absence of infiltration and to call a case exfoliative dermatitis, that stress should be laid upon this point. A scaling eczema with exudation is quite another disease. The fluid which is occasionally present in cases of pityriasis rubra is not exudation, but probably merely sweat; it does not stiffen linen. Further, though it may be very widespread, eczema is rarely universal, while this disease, when fully developed, usually is.

The *cause* is unknown. Its sudden appearance in the course of another malady has led some to place its origin in the central nervous system. But two fatal cases of Crocker's, in which the nervous system was carefully examined by Dr. Mott, showed no nerve changes. Others regard it as of parasitic origin, but though organisms may be found in the scales, it has not been found possible to relate them definitely to the disease. In a number of cases the eruption appeared after exposure to cold, and Crocker holds that there is a relation between rheumatism and gout and this disease, these having been present in a number of his cases; while Jadassohn has found tuberculosis in a large proportion of his. The fact that these are not invariably present shows that they have at most only a secondary influence. Shock and a number of these other causes about which one can prove nothing have been instanced as influencing an attack, but candidly we know nothing of the real cause.

PROGNOSIS.—This is bad, especially in those cases which arise spontaneously. Many cases die, some directly from exhaustion, others from some intercurrent disease to which

weakness has predisposed, and those who recover are very liable to have a second, third, and final attack of their malady. The chronic hyperæmic condition of the skin renders the patient very susceptible to cold, and pneumonia is frequently the cause of the fatal issue.

TREATMENT.—The first indication for treatment is derived from the history of the development of the disease. Having seen how cases develop from over-treated psoriasis, it is very clear that only mild remedies should be used. During the acute stage the patient should remain in bed in a warm room, and every possible precaution should be taken against cold. The applications should be of the mildest. Hebra's ointment, weak tar lotions, or weak carbolised oil may be tried; according to Morris, mercurial applications aggravate the disease. If a case is improving, however slowly, under any remedy, it is wise to be content; efforts to stimulate progress too often lead to an exacerbation of the disease. Internally, probably the most useful medicine is *antimony*, small doses of the wine being given at frequent intervals. Quinine and thyroidin are often useful. Arsenic should never be given until the case has become distinctly chronic, and even then only if it has begun to show some signs of improvement. If any active inflammation is present it is almost sure to be aggravated by arsenic. The diet should be light but nutritious, and cod-liver oil is generally useful. Alcohol and any foods which may cause flushing of the skin must be absolutely forbidden. Baths should be tempered by the addition of bran or starch (p. 21). When the acute stage is past, and the patient insists on going about again, special precautions against cold must be constantly taken.

PITYRIASIS RUBRA PILARIS

This is a rare disease, and in dermatological circles there arises every now and then a discussion as to whether it is the disease which Hebra described as *Lichen ruber acuminatus*. Such discussions are always interesting to experts, but do not concern students. For them it is sufficient to know that Pityriasis rubra pilaris (red scaliness around the hairs) is a chronic disease of the skin, presenting resemblance to Lichen

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PITYRIASIS RUBRA PILARIS

planus and to Psoriasis, for the latter of which it is most usually mistaken. It commences in the form of small papules of a yellowish colour, and, these enlarging, run together to form patches of various sizes and shapes, and, becoming red from hyperæmia, present considerable resemblance to patches of psoriasis. But as one watches their progress one notes the remarkably chronic character of the patches. Week after week and month after month a patch will preserve exactly the same outline, neither increasing nor diminishing, and apparently regardless of any treatment. In other regions the disease may be steadily extending, till great tracts of skin are involved. On the backs of the first metacarpal joint the disease is always remarkably developed around the hair follicles, and the little black-topped conical lesions in this situation are of great value in diagnosis.

In the slighter cases there may not be much interference with the general health, and comparatively little inconvenience from the eruption, but as time goes on the general condition does suffer. Of three cases that have recently been under my care, one, a girl of eleven, developed tuberculosis; another, a middle-aged woman, went gradually downhill without any very definite symptoms, and died some four years after the disease first appeared; while the third, a boy of twelve, from whose arm the cast is taken, has made a good recovery.

Sections of portions of excised skin present appearances which are perhaps best described as reminiscent of Lichen, though clearly distinguishable from that disease.

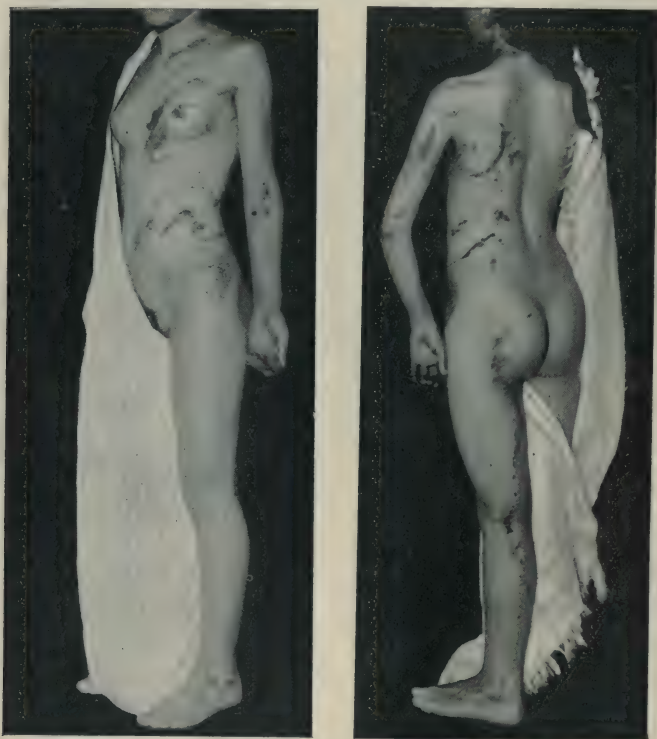
TREATMENT.—Cases are as a rule very little amenable to treatment, and as a rule arsenic, which is so commonly administered, fails altogether to bring about a cure. But the satisfactory result in the case of the patient referred to, who was under the immediate charge of my colleague, Dr. F. Gardiner, was treated with only quite moderate doses of that drug. In the case of the girl referred to above no benefit resulted from arsenic in its ordinary form, but large tracts of the disease cleared up under a course of injections of soamin, which was fortunately unattended by any disaster. In other cases which have been under my care there has been no improvement. It is interesting to recall that Hebra reported uniformly fatal

results until he had recourse to "heroic" doses of arsenic. I have tried all sorts of local treatment in vain.

ICHTHYOSIS

(ἰχθὺς—a fish)

Ichthyosis, or the fish-skin disease, though fortunately rarely seen in its severer forms, is in the milder ones far



FIGS. 33 and 34.—The so-called Ichthyosis linearis.

from uncommon. The numerous named varieties are better considered as simply different manifestations of the one complaint. To this, however, one exception must be made, for

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ICHTHYOSIS.

the condition sometimes spoken of as ichthyosis in streaks, which is found, *e.g.* on one limb, or apparently following the course of a nerve round the body, is really a variety of naevus. This form is well illustrated in the accompanying photographs, for which I have to thank Dr. Borrowman. The different adjectives added to the name—*ichthyosis serpentina*, *sauroderma* (crocodile), etc.—are simply descriptive of an apparent resemblance to the lower animals.

The mildest variety goes by the name of xeroderma (dry skin). In this form the patient is only conscious, in the colder months, of a dryness of the skin, and a slight tendency to sealiness at certain situations—the knees, elbows, and axillary borders. The secretion of sweat is greatly diminished, many patients declaring that they do not sweat at all. As the disease spreads it tends to affect the extensor surfaces, and these are occasionally the seats of a moist eruption, which it is, however, a misuse of terms to call eczema. From this mild variety there are all degrees up to the severest cases, where the patient is covered almost entirely by large horny masses, and the skin resembles rather that of a reptile than of a human being. The Plate illustrates the more commonly occurring form of the disease. On the back and the arms the partitioning of the skin into little lozenge-shaped areas, like the scales of a fish, is fairly well shown, while as we approach the axillæ the disease is more marked, and the little blackened horny masses are prominent. In the severer forms these increase in size and length, and may be as much as a quarter of an inch in diameter and three-quarters of an inch long.

Even in the severest cases certain regions are usually spared; the face, the palms and soles, and the flexures of the joints being usually unaffected. Curiously, in the milder form the face is often affected, and as an exception to prove the general rule I once had in my ward a girl in whom the worst parts were the palms, the soles, and the flexures.

The disease is usually described as congenital, but it rarely appears before the end of the first, and often well on in the second year of life, while exceptional cases are recorded in which the disease first showed itself in adult life. Confusion

has resulted from its being erroneously associated with what is known as congenital ichthyosis, the disease figured in many obstetric text-books as the "Harlequin" foetus. Although both diseases show excessive cornification as a prominent feature, there are certain differences so marked as to make it unlikely that they are the same. For example, in hyperkeratosis congenitalis, as it should be called, the palms and soles are invariably affected, while in ichthyosis they are, as a rule, the last regions attacked. Heredity is, however, very marked in ichthyosis, and the disease to some extent shares

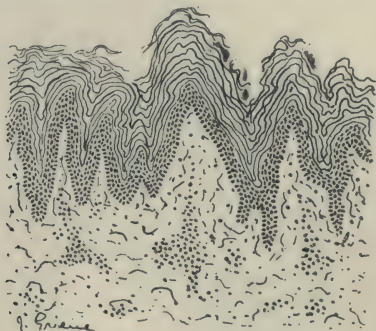


FIG. 35.—Ichthyosis. Horny layer increased, rete thin, "Alpine" papillæ, some cellularity of the corium. ($\times 50$.)

with xeroderma pigmentosum the peculiarity that it shows itself usually only in one sex in a family. There is no evident preference for one over the other, but in one family most of the boys may be affected, and in another all the girls, the opposite sex remaining perfectly free. Exceptions to this are, however, occasionally noted.

I have indicated my opinion that psoriasis should not be looked upon as a bar to marriage. I am not prepared to go the length of saying that persons who suffer from ichthyosis should not marry, but it should be clearly explained to them that the probability of transmission to the next generation is considerable.

The cause is unknown. Unna places it among the infective inflammations, and it is interesting to know in this connection

that in Styria it is said to be as common as is psoriasis in this country. No organism, however, has been identified. On examining a section of the skin the changes are so striking that one has no difficulty in recognising it at a glance. The epidermis is thin, the horny layer is markedly thickened, and the papillae have a peculiar Alpine arrangement, reminding one of those pictures of the relative heights of the mountains of the world which appear at the bottom of maps (Fig. 35). Although the sweat and sebaceous secretions are diminished, both sets of glands are found on examination. The subcutaneous fat is notably diminished. The amount of irritation in the skin, as shown by the presence of leucocytes and proliferating connective-tissue cells, depends on the stage of the disease. If the piece examined has been removed during a quiescent period they are practically no more than normal, while if removed during an attack of "eczema" they are of course numerous.

DIAGNOSIS.—This, in an advanced stage, is very easy. No one could possibly mistake a well-marked case. Those difficult to diagnose are the slight ones, especially where, perhaps, a moist catarrh has directed one's attention away from a disease so associated with dryness as ichthyosis. There are, however, certain peculiarities about this moist catarrh which should arouse the suspicion that one is not dealing with ordinary eczema. The distribution is almost always on the extensor surfaces, and if the diagnosis is not made it will generally be found that treatment is by no means so successful as it would have been had the case been a simple dermatitis. In every patient with a moist catarrh on the extensor surfaces, especially if there is a history of its recurrence winter after winter, the regions where ichthyosis is generally most developed should be examined. The knees and elbows, especially the former, are in so many people the seat of a certain amount of scaling, that most information is to be derived from the examination of the axillary borders. Either anteriorly or posteriorly there will be found here some evidence of the disease. Prurigo, which also attacks the extensor surfaces, which is occasionally moist, and which is also a disease dating far back in infancy, is so rare in this country that it need be only exceptionally considered.

The nutmeg-grater character of the skin, the enlargement of the glands, and the greater itching, combined of course with the absence of any signs of ichthyosis, should enable one easily to recognise prurigo. From psoriasis, which also affects the elbows and knees, there should be no difficulty in diagnosis. Sometimes, it is true, the scales of psoriasis do take on a greenish colour, but they are heaped up in masses, and never all of them assume the areated, mosaic arrangement so constantly seen in ichthyosis.

PROGNOSIS.—It is difficult to lay down the prognosis of any given case. The danger to life is practically nil; the prospects of improvement are excellent; but the hope of complete recovery is by no means good.

TREATMENT.—The main object of treatment is to supply to the skin the *fat* in which it so markedly deficient, and if a sufferer will take a daily bath, and grease himself regularly with lanoline, vaseline, or some other fat, he can keep himself in a condition of comparative comfort. While this inunction of fat is followed by great amelioration of the symptoms, it cannot, of course, be expected to do much to cure the disease, especially if it be regarded as an infective inflammation. Therefore various drugs of an antiseptic nature should be incorporated with the ointment base. Of these drugs the most generally used are *sulphur*, *ichthyol*, β -*naphthol*, *resorcine*, and *salicylic acid*. One or other of these may be combined in the proportion of 2 to 5 per cent. with the ointment, and one usually has, unfortunately, ample opportunity of comparing the relative value of the different preparations. Internally, *pilocarpine* is of undoubted value. It may be injected subcutaneously, or the tincture or syrup of jaborandi may be given by the mouth. Small doses of nitro-glycerine frequently repeated have proved useful in some cases. Arsenic and cod-liver oil are also recommended, and the latter of these, by *increasing the subcutaneous fat*, almost always does some good. While thyroid substance is not a remedy to be recommended in a disease such as psoriasis, where one has numberless remedies of well-approved value, in this complaint, which is so chronic and so obstinate in its response to treatment, one is justified in using with caution remedies which do carry with

them a certain amount of danger. The patient's susceptibility should be carefully tested, and the dose always kept well below that which would induce toxic symptoms. *No patient should ever continue to take thyroid tablets except under medical supervision.* The amount to be taken depends entirely on the individual. With some, one 5-grain tablet a day is sufficient, while others can take without harm five or more.

Something, too, may be done by diet. Ichthyotics are generally thin, and the production of a good thick layer of subcutaneous fat often greatly improves the skin. (See Daniel, chap. I. verses 12-15.)

To those to whom their place of residence is a mere matter of choice, some warm, moist climate should be recommended; for residence in a cold, exposed, windy district is certain to lead to constant attacks of moist catarrh, with its accompanying discomforts.

INFLAMMATIONS OF THE DEEP EPIDERMIS (GLANDS AND FOLLICLES)

ACNE

(*ἄκνη*, quasi *ἀκμή*—a point, or the bloom of anything)

This term was probably applied to the disease by reason of its association with adolescence, since acne was looked upon as the bloom of youth. The essence of the disease is hyperkeratosis culminating in the mouths of the sebaceous follicles and leading to the production there of a comedo,¹ or *black-head*. The comedo itself is a minute oat-shaped body composed of concentric layers of horny cells arranged like the scales of an onion. The long coil of yellow material which can be expressed from the gland is retained secretion, and not part of the comedo proper. While many of the comedones remain as such, others set up irritation, and the distended gland becomes converted into a pustule, at the apex of which the comedo is generally still evident. In some cases the suppuration is deep, and considerable abscesses are formed in

¹ Latin *comedo*, I eat up. The comedo was supposed to be a species of worm.

the depth of the skin, often from the union of several adjacent suppurating follicles. In others again there is deep connective-tissue thickening, and to this form the name *acne indurata* is applied.

The disease is practically confined to the period of adolescence, being most common between the ages of sixteen and six-and-twenty. After thirty it is rare, so rare that the appearance of a disease simulating acne after that age should always lead to careful inquiry as to whether the patient has been taking some drug, especially iodides or bromides, or whether in his work he is brought into contact with tar or paraffin.

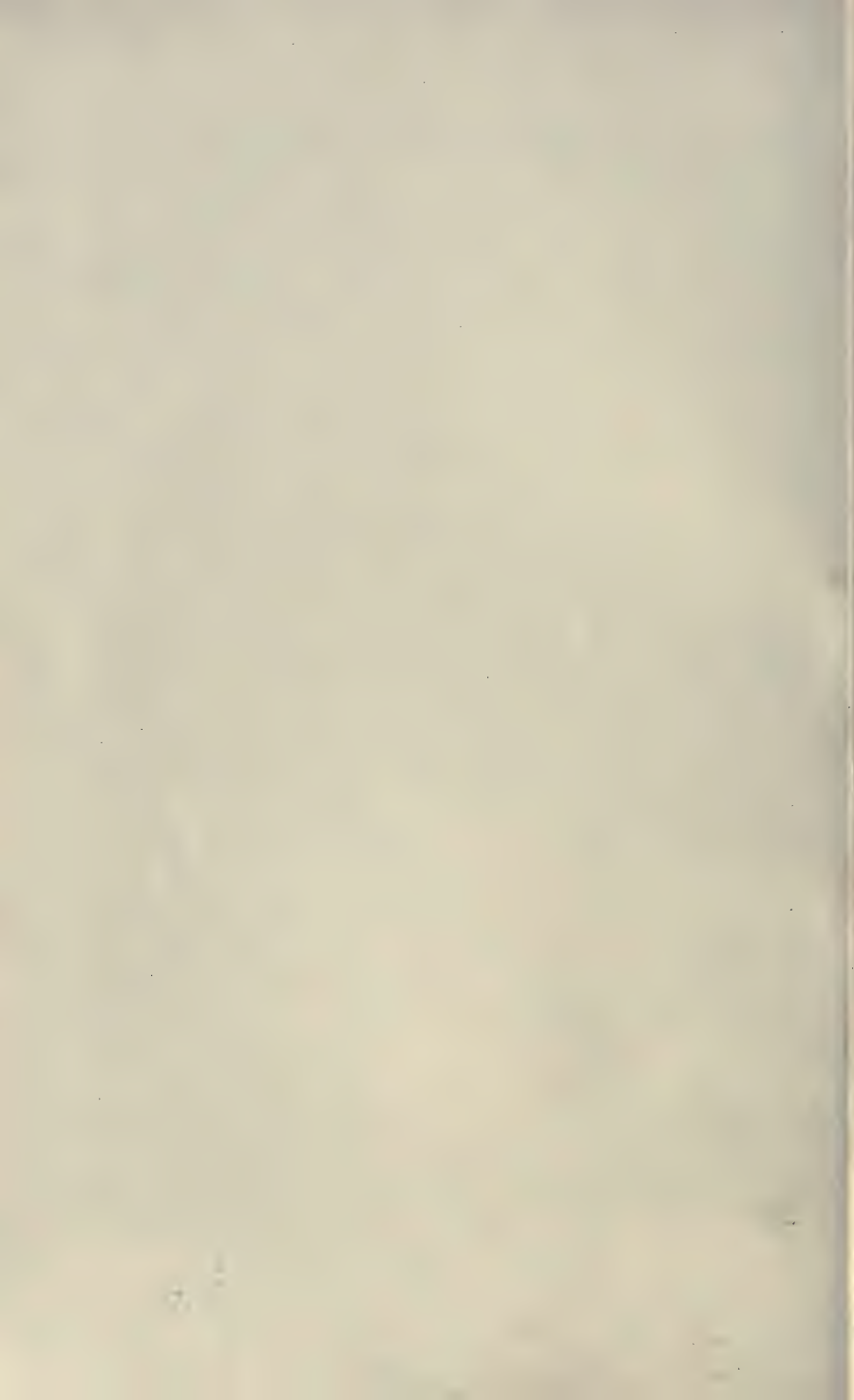
It affects both sexes equally, though perhaps the severest cases are seen in the male. The parts of the body usually affected are the face, the chest, and the back. Exceptionally it spreads farther down the trunk and to the limbs. The skin is always greasy, anæmic, and flabby from want of tone in the cutaneous muscles.

ETIOLOGY.—The older authors gave several ingenious explanations of the cause of this disease, the commonest being that it was associated with the increased activity of the skin and the development of hair at puberty. Acne has in the last few years been the subject of much careful investigation, and while there are doubtless many predisposing and contributory causes, there is little doubt that the actual cause of the disease is the organism now known as the *Bacillus acnes*. This was first described by Unna, but also independently by Gilchrist and Sabouraud. The views of the last named have attained the greatest publicity, and although his conclusions are not by any means universally accepted, his observations are of extreme interest. It must be borne in mind that he claimed this one bacillus as the cause of what we have been accustomed to regard as three distinct diseases, seborrhœa, acne, and alopecia areata.

If any abnormally greasy skin be carefully examined with a lens it will be found that the openings of the sebaceous glands are corked by little greyish-yellow masses. To these Sabouraud has given the name of "cocoon." When examined under the microscope they are found to consist of some epi-



ACNE VULGARIS.



thelial cells, a large amount of grease, and millions of short, thin bacilli. This is the first stage in the development of the comedo, the further development into the little hard, shiny, oat-shaped body only takes place in a small percentage of the cocoons. According to Sabouraud, this bacillus stimulates the secretion of the sebaceous glands, and alters it so that it becomes a fluid instead of a solid fat. With the further development of his views I do not agree, but the development of a comedo from one of among twenty or thirty cocoons which remain as such is a fact which anyone can observe.

Gilchrist's work was on somewhat different lines, for he examined the later stages of acne, the pustules. In them he found, among the pus, masses of bacilli, which he was with some difficulty able to cultivate. Experimental inoculation showed them to be possessed of marked pathogenic properties, but he was unable to reproduce the actual disease. As he says, contributory causes are doubtless necessary. To him the organism owes its name.

Both Unna and Gilchrist have demonstrated that the softening and suppuration which it was the custom to ascribe to accidental inoculation with pus cocci are attributable in many instances at least to the bacillus. The last year or two have been very active years in the investigation of acne. Much valuable work has been done, and from the rather warm conflict of views we have learned that the bacillus grows best anaerobically, a rather curious fact when one considers the position of the comedones. On the whole, recent investigation has confirmed in the main the results of the early observers.

There are many clinical facts in favour of the infective nature of acne. Although in such a common disease evidence of direct infection is of course very difficult to obtain, cases of auto-infection are not infrequently seen. Treatment by massage, for example, is exceedingly apt to spread the disease, the organisms being probably massaged out of one follicle into another.

When a spot is examined microscopically we find the mouth of the sebaceous gland plugged by the comedo. This little oat-shaped mass is composed of concentrically arranged

horny layers, more closely packed at the upper part, and showing there the black colour which characterises the extreme degree of cornification. The same is seen in advanced cases of ichthyosis and in cutaneous horns, and it is not due to dirt. Beneath, the gland is filled with broken-down sebaceous material, all trace of glandular epithelium is usually lost, and the cavity is lined by a horny layer resembling that of the skin.

When the disease has reached the pustular stage this layer has usually broken down, and the abscess cavity involves the surrounding tissues to a greater or less extent.



FIG. 36.—Section of an early lesion. The orifice of the gland is plugged by closely packed layers of horny matter—the comedo. All sebaceous structure is gone and the gland is lined by horny layer. Some softer material in the centre has dropped out in preparation. ($\times 50$.)

If left to itself acne tends to progress steadily, the comedones slowly increasing in number. The amount of suppurative change depends to some extent upon the health of the individual, although persons in the most vigorous health may have their faces disfigured by a profuse eruption of pustules.

DIAGNOSIS.—The presence of pustules on the face is not enough on which to found a diagnosis. The essential element of the disease is the comedo; and it is only when that obviously forms the starting-point of each pustule that a diagnosis of acne is justified. There are many pustular eruptions which occur on the face besides acne.

PROGNOSIS.—Almost all cases are curable by time, and if a patient is willing to wait until he enters the thirties there

is no occasion to do anything. Unfortunately, though "*tempus varos curat*," the scars left are often almost as disfiguring as the disease; an acne scar is in many cases the starting-point of keloid, and comparatively few persons are willing to leave their cases to Nature. In dealing with the prognosis we have to consider a number of factors. One of the most important is the general condition of the patient; if in bad hygienic condition and insufficiently fed, his acne is likely to continue. Various abuses, too, if indulged in, interfere with improvement, but the great element in prognosis is the diligence with which the patient carries out treatment. The main factors, then, in the cure of a case are time, health, and perseverance.

TREATMENT.—In the treatment of acne it must be kept in mind that we have invariably hyperkeratosis, anaemia, flaccidity of the cutaneous muscles, and an excessive amount of oily secretion, all probably due directly or indirectly to the bacillus. With regard to general treatment, it is evident enough that they are all conditions which can be improved by general tonics. The patient should take plenty of exercise in the open air, plain food, all greasy articles of diet being avoided—and, in short, get into as good condition as possible. In girls, constipation and anæmia are very frequently present, and these must be treated.

Not much aid can be got from drugs internally administered. When there is much induration around the individual lesions, *sulphide of calcium* given in pills, $\frac{1}{6}$ of a grain three or four times a day, seems in some cases to promote either their absorption or more rapid softening. *Yeast* is an old-established popular remedy, and *leucurine*, its supposed active principle, or nucleinic acid may be tried if fresh yeast is not obtainable.

The discovery of an organism as a probable cause of the disease has, of course, stimulated belief in the efficacy of local treatment. Again bearing in mind the factors of hyperkeratosis, excessive secretion, anaemia, and flaccidity of muscles, we find that there is one treatment which has an influence on all four, namely, the vigorous application of soap, the alkali of which removes the excessive oily secretion and the thickened horny layer, while the friction with which it is applied

promotes hyperæmia and stimulates the flaccid muscles. Soap alone, combined with friction, will cure a great many cases, but it is usual to associate with it some drug which will assist in its action. Long before organisms were even thought of, *sulphur* had established itself as of value in the treatment of acne, and sulphur combined with some form of soap is still the most efficacious treatment. With regard to the form of soap with which it should be combined, opinions differ very much. Some, believing that the alkali in soap is responsible for many disagreeable effects, recommend that an over-fatty soap should be employed. Others use the soap liniment of the Pharmacopœia, while others again use Hebra's soap spirit, a strongly alkaline preparation. Seeing that we have to deal with a skin rich in fat, which the alkali of the soap removes, over-fatty soap, theoretically, is of little value. But any soap, no matter how fatty, when combined with water gives off some alkali, and the over-fatty ones are probably simply less active than others in the same direction.

It will probably conduce to clearness if the methods of treating cases of different severity are described in detail. The patient whose skin is dotted with comedones, and in whom suppuration is at a minimum (see Plate), should every night steam the face over hot water, and then bathe it. With a suitable expressor the comedones should be extracted. The



FIG. 37.—Comedo Extractor.

common practice of squeezing them out with the nails, or the more objectionable one of using a watch-key, is in my opinion worse than useless. The watch-key method, especially, is exceedingly painful, bruises the skin to which it is applied, and, by forming a *locus minoris resistentiæ*, hastens the development of the pustule which it was intended to prevent. Everyone has his favourite form of comedo-extractor, and the one illustrated has at all events certain advantages. It can be applied accurately over the comedo, which remains in sight, and the edges being carefully rounded there is little risk of

damaging the tissues. The comedo should be expressed by a shaking movement, and not by brute force. When all the prominent comedones have been removed the face should be rubbed with some sulphur-containing soap. Either the sulphur camphor and Peru balsam soap, originally introduced by Eichhoff, or a salicylic sulphur one, may be used. With a shaving brush an abundant lather is produced, and this is rubbed for a few minutes into the skin. For the first few days it is wiped off with a damp cloth, but as the skin becomes habituated to its use it may be rubbed in over an increasingly longer time, until eventually it is rubbed in entirely and there is none to wipe off. Few skins can stand the continuous use of this soap, and it is desirable that on Saturday nights the skin should be simply anointed with vaseline.

If the comedones are very numerous, and the skin, as is usual in such cases, is tolerant, other mechanical means of removing them are handier than the expressor. If a soap combined with sand is used occasionally it rubs away the upper portions of the comedones, and thus facilitates the action of the medicated soap. For well-to-do patients "marble sand" soap may be ordered, but the much-advertised article which "won't wash clothes" is equally efficacious. Once a week is often enough to use these sand soaps. On the five other days the sulphur soap should be used.

Another method of applying sulphur is Vlemmingkx's solution: 10 parts of sulphur, 20 of quicklime, and 200 of water are boiled down to 120 parts in an iron vessel. At first this is diluted freely with water (1 to 5), and it is simply dabbed on at night after bathing the face. The strength is gradually increased as tolerance is established, until the pure solution is used. Whitfield recommends the use of dry sulphur.

Where pustules have developed these should be opened and evacuated. Some apply to the interiors strong carbolic acid, but as a general rule, if the pustules are properly opened and squeezed out, they do not tend to re-form. The presence of a considerable number of pustules does not altogether interdict the soap treatment. The general benefit is so great that

patients may well endure some small extra discomfort. Where, however, the parts are very much inflamed and the pustules very numerous, sulphur may be applied in lotion along with calamine, instead of in the more active form of soap. The following is the prescription used in the Royal Infirmary:—

R	Sulph. Præcip.	.	.	.	.	.	.	.	3j
	Calaminæ	.	.	.	.	.	.	.	3ij
	Zinci Oxidi	.	.	.	.	.	.	.	3ij
	Glycerini	.	.	.	.	.	.	.	3j
	Aquam Destill. ad	.	.	.	.	.	.	.	3iv

Sig.—Shake and paint on with a brush.

Under this more soothing treatment the evidences of irritation will diminish, and the soap treatment may then be resorted to. If the pustules are very numerous and large, so much so as to amount to cutaneous abscesses, they must have more thorough treatment, being freely opened, and kept open until the cavities fill up. During this treatment the face should be bathed at intervals with an antiseptic lotion, containing either boracic acid or perchloride of mercury, in order to diminish the risk of further inoculation of the raw surfaces from without.

A method of treatment which has certain advantages, but which has not attained much popularity in this country, is that of “shelling” the skin with resorcine. Equal parts of resorcine and Unna’s zinc paste, thickly spread, are applied continuously to the skin for three or four days. At the end of this period some soothing ointment is applied, and in a day or two more the skin peels off in large flakes, bringing with it the hyperkeratotic horny layer and a large number of the comedones. The method involves confinement to the house, and in that respect is disadvantageous, but it does more in a week than the milder treatment will accomplish in two months.

As already indicated, the treatment must be prolonged and persevering. Even after all signs of the disease have disappeared, the patient should go through the soap treatment once a week. In view of Sabouraud’s theory that seborrhœa of the scalp is intimately associated with acne, an observation which undoubtedly has a considerable amount of clinical

support, the scalp should be examined for seborrhœa, and this, if found, should be treated appropriately.

Vaccines.—Those who were convinced that acne was due to a specific bacillus, never accepted the statements that acne could be cured by staphylococcal injections. They never denied that pustular diseases of the face might be so cured, nor that cases of acne complicated by suppuration might be greatly benefited, but until the true acne vaccine was forthcoming, they preferred the old lines of treatment. Now that it is comparatively easy to procure real acne vaccine, it is possible to estimate its effects, and there is little doubt that acne is greatly benefited by periodic injections of acne vaccine. Perhaps the cases which respond most readily are those in which the comedones are numerous, and suppuration is not pronounced. The use of vaccines does not and should not interfere with other suitable treatment.

I have to thank Dr. Fleming of the London Hospital Medical School for the hint how to prepare acne vaccines easily. If two or three comedones are inoculated in broth and placed in the incubator, an abundant growth of staphylococci takes place. In a day or two these exhaust their vigour, and the acne bacillus thenceforth dominates the situation. In ten to fourteen days there is a profuse growth of these latter at the bottom of the tube, from which vaccines are easily prepared. It may be, and very likely is, that the vaccine contains a certain proportion of staphylococci, but these in no way interfere with the efficacy of the treatment. In cases where there is a great deal of suppuration, and of secondary suppuration, it may be well deliberately to increase the proportion of staphylococci in the vaccine. I usually give injections of from five to ten million acne bacilli about every two or three weeks.

Some cases of acne improve marvellously under the X-rays; and the same may be said in regard to high-frequency currents. But both are often disappointing in apparently suitable cases, and the depilatory effects of the rays of course greatly hamper their utility when the eruption is on the face.

Acne varioliformis.—This rare disease occurs most commonly on the skin of the forehead and temples, and spreads into the scalp, and it is usually very pronounced on the point of the

nose. It commences as a firm reddish papule, not as a comedo. This becomes surmounted by a pustule very like that of small-pox, and then a considerable necrosis takes place in the centre, which, when thrown off, leaves a resulting scar closely resembling that of variola. Sabouraud says that it begins in a cocoon, and is essentially the same disease as acne vulgaris, and a very well-marked case recently in my ward showed marked oily seborrhœa of the scalp. When this was cured all active signs of the disease had gone; the scars, of course, remained.

Others look on all cases as syphilitic in origin, and a history of this disease is sometimes forthcoming.

TREATMENT.—*Iodide of potassium* is often prescribed; cod-liver oil and iron are sometimes of value. Locally, some mild antiseptic ointment should be applied. My limited experience favours Sabouraud's views, and suggests the line of treatment.

SYCOSIS

(σῦκον—a fig¹)

Although the comparison is not strictly correct, sycosis is best understood by the student as an acne of the beard regions. It consists in the appearance of pustules in the hair follicles of that region. In the acne region the hair follicle is a mere appendage of the sebaceous gland; in the beard region the relationship is reversed. The term is still applied a little loosely, though we have clearly removed from its scope the old sycosis menti or ringworm of the beard.

All affections of that region are liable to lead to pustules, and in order to differentiate sycosis clearly from the others it will be useful to consider them for a moment together. The four common affections are sycosis, ringworm, eczema, and impetigo contagiosa. Impetigo contagiosa is most easily separated from the others; it is more rapid in its development, and

¹ There is not much resemblance traceable to the dried fig familiar in this country, but the pink centre of a fresh ripe fig with the yellowish-white seeds dotted through it is somewhat suggested by the reddened skin and the yellow pustules of a typical example of the disease.

the character of the crusts produced is usually very typical. When the crusts are removed the skin beneath is seen to be very little reddened; there is, however, more moisture than when the disease attacks the non-hairy skin. In the other three diseases, pustules form around the hair follicles, and in separating them from each other one has to lay stress upon the *prominent* feature in each. Pustules are common in ringworm when the affection is derived from one of the lower animals, but even in such cases there is almost invariably one characteristic which enables the diagnosis to be made at once. That is *the presence of deep hard nodules* scattered here and there over the affected surface, the hair over which usually comes out much more easily than that on the surrounding skin. The real difficulty in separation lies with the two remaining ones, and more than one dermatologist of eminence refuses to recognise any distinction between them. The difference is that in sycosis the pustules around the hair follicles are the predominant lesion, while in eczema they are secondary to the general inflammation of the skin. The pustules in a typical case of sycosis are much more numerous and much more distinctly in relation to the hair follicles than are those of eczema. The difficulties of diagnosis are increased by the fact that in sycosis there is almost invariably a certain amount of dermatitis and reddening of the intervening skin, and in some cases it is indeed impossible to draw a distinction.

Of the two, sycosis is the more serious condition. The infection is deeper, and consequently more difficult to cure. The disease is most common upon the cheeks, where the number of pustules, each surrounding a hair, may be very great. It is less common on the moustache region. That portion of the upper lip immediately below the nostrils is often the seat of an affection sometimes confused with sycosis. It is really, however, a dermatitis brought about and kept up by the irritating discharge of a nasal catarrh, and no amount of local treatment will do any real good until the catarrh is cured. This form comes within the sphere of the rhinologist, but many cases are easily enough cured by careful and frequent syringing of the nostrils with weak boric acid lotion (grs. iv to ʒj).

Another form of eruption resembling sycosis occurs in individuals with very strong beards. A number of pustules are present, usually under the chin, and these when closely examined are seen each to surround a hair of which the free end has not escaped from the skin, but is growing downwards as it lengthens, and thus is producing irritation. With a little trouble the buried end may be disinterred, and the pustule disappears. No local application can do anything for this deformity, which if troublesome is best treated by allowing the beard to grow.

ETIOLOGY.—The sheath of the extracted hair, and the pus which follows its extraction, teem with staphylococci, and proof of their casual relationship with the disease can easily enough be obtained by anyone who chooses to make the experiment. A rarer form of the disease is the bacillogenic sycosis described by Mibelli.

TREATMENT.—The disease is always chronic, and has no natural tendency to disappear. In treating it the first matter for consideration is the question of shaving. On this point there is difference of opinion, some maintaining that shaving tends to spread the infection and thus to aggravate the disease, and that the irritation of the razor is injurious. On the other hand, the bulk of experience supports the view that the facilities for treatment given by shaving more than counterbalance these disadvantages. A half-way house may be found, if desirable, by clipping the beard. The soap treatment is not so eminently applicable here as in acne, often appearing to irritate the skin, although it is of value in the later stages. Even in the earlier ones it is desirable that the patient should shave with some antiseptic soap, *e.g.* the sulphur salicylic one already referred to under acne. The hair in the centre of the pustules should be extracted *before* shaving. This removes a certain amount of the contagion, and facilitates the access of the antiseptic used to those organisms which remain in the empty follicle. The case may then be treated by various antiseptic ointments, oleate of mercury, ammoniated mercury, sulphur, or salicylic acid; whichever is selected should be very thoroughly rubbed into the skin, say for ten minutes twice a day. Weak preparations thoroughly applied are far more

useful than stronger ones merely smeared on the surface. The X-rays are often useful in obstinate cases, unfortunately a large proportion. The reaction is often exceptionally severe, and great caution should be observed. When the hairs fall out the case looks so much better that it is sometimes difficult to persuade the patient that any further treatment is required. But if nothing further is done the disease will return with the hair. Some antiseptic ointment (*e.g.* Ung. hydr. nit. 3j, ung. zinci ox. 3j) should be vigorously rubbed in twice daily, and the new hair should be shaved when it appears. My results have been most satisfactory in the cases where I produced permanent destruction of the hair.

In some obstinate cases counter-irritation may be applied with the object of attacking the organisms indirectly. In many, the application of perchloride of mercury in spirit (1 to 500) is followed by great improvement; it often blisters the part. Other counter-irritants, such as ordinary blistering fluid, may be used. Hodara recommends nitrate of silver in solution, 1 to 4 per cent.

If I formerly damned the vaccine treatment of acne with faint praise, I early recognised its usefulness in sycosis, and increasing experience has confirmed this favourable impression. For some time I endeavoured to treat all my cases with autogenous vaccines, but the labour was enormous and the advantages certainly not commensurate with it. Most cases of sycosis are due to the staphylococcus aureus, and a vaccine of that organism is therefore appropriate. But it is well, if possible, to make cultures from each case, and if other organisms are present to use a combined vaccine. In individual cases the interval between the injection may be shorter or longer—our usual period is three weeks.

When the disease is nearly well, patients are often desirous of re-growing their beard; this is a dangerous experiment. Often when, perhaps after two years of treatment, a sycosis has been subdued, an attempt to re-grow the beard results in the return of the disease with all its old intensity. The hair should not be allowed to grow until quite a year *after all trace* of the disease has disappeared.

RINGWORM

TRICHOPHYTOSIS (*θρίξ*—the hair, and *φυτόν*—a plant)

Ringworm is caused by the implantation and growth of a fungus. The appearances produced vary so greatly on different parts of the skin that it is desirable to describe the principal varieties in detail, rather than attempt to give any general description of the disease.

More than one disease is included under the clinical term ringworm, and though clinicians are not inclined to follow the laboratory worker and admit that the number is practically indefinite, we are all more or less agreed on certain facts.

Ringworm of the Scalp, or *Tinea tonsurans*, comprises two diseases,—in the one the fungus present is the small-spored (*Microsporon Audouini*), in the other the large (*Trichophyton megalosporon*, *endo-* or *ecto-thrix*).

It is unnecessary for the student to enter upon a study of the botanical relationships of the two fungi; both cause a disease clinically known as ringworm. The relative proportions of the two have a curious relation to the parallels of latitude. In Scotland, most of our cases are caused by the microsporon; in London, its proportion is between 80 and 90 per cent. (Fox and Blaxall); in Paris, 60 to 70 per cent.; while in Italy nearly all the cases are due to the trichophyton. Too much stress has been laid on the relative size of the fungus elements in the two diseases, for after all they differ comparatively little. Their arrangement is a much sharper distinction; those of the microsporon are arranged irregularly in a *mosaic*, those of the trichophyton in the form of chaplets of beads, or *rosaries*. The terms large- and small-spored have, however, provisionally established themselves, and are in general use.

Ringworm of the scalp is practically restricted to childhood. Most cases commence between the ages of seven and twelve, and even if left entirely alone, the disease dies out about the age of fifteen. (Ringworm of the scalp in the adult is so rare that nothing but the clearest demonstration of the fungus should ever lead a young practitioner to diagnose it.)

Small-Spored or Mosaic Ringworm.—The first evidence of the disease is the appearance, or rather the discovery some-

where on the head, of a small rounded spot, partly denuded of hair. The size, of course, depends on the stage of observation. The hairs on the spot are short, dull, often *darker* than normal, and, having completely lost their elasticity, are bent and twisted in all directions. If one could imagine a cow so tethered in a rich meadow that it was compelled to feed on a circular patch, the appearance that patch would have, when the cow was finished with it, is the appearance of early, untouched ringworm. The hairs, like the grass, are bent and twisted in all directions. The surface of the skin is covered with greyish white scales, and often a reddish ring, on which the hairs are shorter than in the centre, margins the spot.

This is the most typical form of the disease, but in many cases the infection is not so localised in spots, and irregular patches of varied size are found, on which broken (diseased) and healthy hairs are found alongside of each other. This latter form is almost as common as the circumscribed one, and owing to its wide dissemination it is more difficult to cure.

When a diseased hair is removed and examined under the microscope it is found to be *sheathed* by a mosaic of fungus, the elements of which are pressed closely together, so that their individual shape is altered. (Fig. 39.) There may be seen, here and there, usually in the interior of the hair or in a portion of loose scale, threads of fungus. The hair substance is broken up, and the free end has a brush-like aspect.

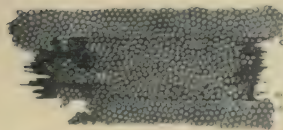


FIG. 39.—Portion of a hair attacked by the small-spored fungus. Mounted in Liq. Potassæ.



FIG. 38.—Culture of *Microsporon Audouini*.

Fig. 38 shows the appearance of the fungus when grown in a test tube, but for details of growth, etc., the reader is referred to the larger works and monographs.

Large-Spored or Rosary Ringworm.—Two distinct clinical types are associated with this variety. In one the hairs are

broken off so short that the patch appears quite bald, and the fragments of hair appear in the follicles as black dots. Hence the name of "black dot" ringworm applied to it by



FIG. 40.—Crateriform growth of *Tricophyton megalosporon*.

Aldersmith, while the baldness has led to its being christened by Liveing, "bald" ringworm. The stumps are so short that it is difficult to procure one for examination,¹ and these cases are sometimes mistaken for alopecia areata. This form is said to be due to a sub-variety of the fungus which is distinguished as the "fragile" one. In the other variety of rosary or large-spored ringworm, where the fungus is "resistant," the hairs may be even longer than those of the mosaic or small-spored variety. But the cases differ clinically in the fact that in this variety there is very much less scaling than in the mosaic form. Under the microscope the fungus elements are seen to be arranged in long rows. (Fig. 41.) They grow both inside and outside the hair, and in the majority of instances are probably larger than those of the other variety. Fig. 40 shows the crateriform growth typical of this variety of the fungus.

METHOD OF EXAMINING THE HAIR.—It is essential that the hair examined should be one of the short broken ones. If no care be taken in the selection, the examination is a mere waste of time. The old plan of examining the hair in a drop of liquor potassæ is a satisfactory enough method for cases where microscopical examination is really unnecessary. If the hairs are obviously affected by ringworm the caustic potash method confirms the diagnosis. If, however, there is any doubt as to the nature of the case, the method contains so many fallacies that it is of little value.

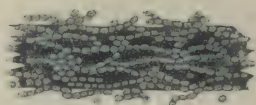


FIG. 41.—Hair attacked by the large-spored ringworm fungus. Mounted in Liq. Potassæ.

¹ They are best obtained by using a comedo extractor.

Those not in the habit of constantly examining specimens are too apt to diagnose as "spores" the drops of oil emulsion which the potash causes by combining with the greasy matter around the hair, while the outlines of epidermic cells are too frequently mistaken for filaments of fungus. Cultures of the fungus can be stained quite well by Gram's or even simpler methods, but as a rule the hair itself takes up so much of the stain that special methods are required to dislodge it. Sir Malcolm Morris's staining method is the best and handiest. The hairs are first steeped in a saturated solution of gentian violet in aniline water.¹ If a very fine preparation is required the hairs should be previously washed in ether to remove the grease. After ten to thirty minutes² in the stain the hair is transferred to Gram's solution of iodine (iodine 1, iodide of potash 2, water 300) for two minutes. It is then placed on a slide, firmly dried with blotting-paper, and a drop of aniline oil containing enough pure iodine to give it a light mahogany colour is applied. This removes the loose colour from the cells of the hair, while leaving it in those of the fungus, and in most cases the fungus is now readily seen under a low power of the microscope. If a more careful examination be required the iodised aniline oil should be removed by pure aniline oil, a cover-glass placed on the top, and the specimen examined with the high power. If it is desired to keep the preparation permanently, the aniline must be washed off with benzol or xylol, and the hair mounted in Canada balsam.

I do not propose to discuss the interesting cultural peculiarities of the different fungi, but cultivation is sometimes of real practical value; especially in cases which are apparently cured. If the scalp in such cases is very carefully searched, one or two short hairs, not unlike those seen in alopecia areata, may be found. These hairs, though they look suspicious, are very often not diseased, and for such the cultivation test is a much finer one than the microscopic.

It is not necessary to compound such elaborate media as are

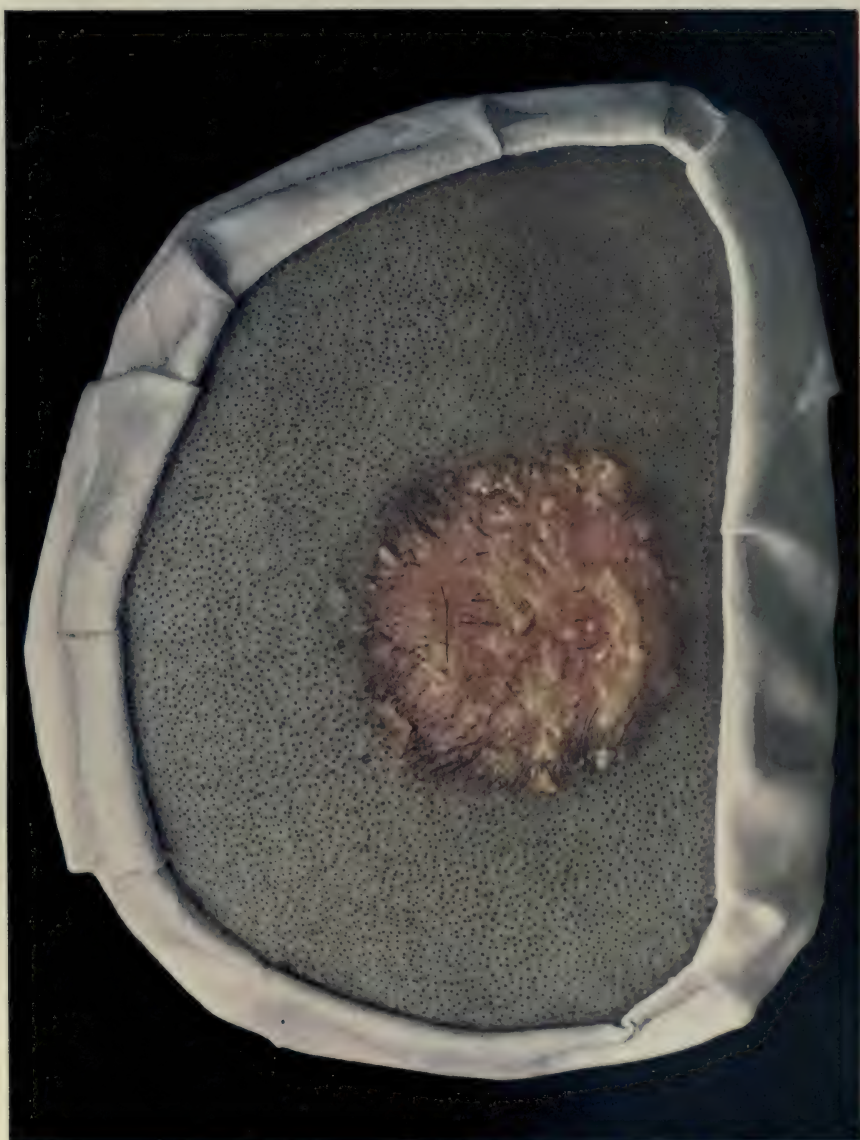
¹ A solution of carbolic and gentian violet in water (5, 5—100) may be used instead of the aniline water dye, and has the advantage that it is always ready.

² The small-spored variety stains more rapidly than the large.

used in the laboratory. A very convenient one is made by the simple addition of from $1\frac{1}{2}$ to 2 per cent. of agar to unfermented beer-wort. This is filtered, put into tubes and sterilised. As saprophytic organisms abound in the scalp it is usually necessary to take some means of preventing their growth. As the reaction of the wort is generally acid, they do not grow vigorously, but they may usually be destroyed without serious injury to any fungus present by soaking the hairs for a few minutes in absolute alcohol. Some varieties of fungus, notably the beard form, will grow after so much as half an hour's soaking in alcohol, and my usual plan is to incubate several hairs which have been soaked for periods varying from two to ten minutes. It is not necessary to have a laboratory and an incubator. The tube may be placed upside down in a tumbler on the kitchen mantelpiece, and in from three to ten days the growth will be evident.

Kerion (from *κηρίον*—a honeycomb).—I agree with all the British observers that this is a complication of ringworm that may occur whichever variety of fungus is present. It is not very common and certainly not a very well known condition, very often escaping diagnosis. I venture to hope that Dr. Low's cast of a typical case will help to make it more familiar. It has been described as Nature's method of curing the disease, although in it Nature is more severe than she usually is in her cures. The whole patch swells up, the hairs fall out, the surface becomes red and glazed, and from the gaping follicles a certain amount of sero-purulent fluid can be expressed; hence the comparison to a honeycomb. The part feels boggy, and undoubtedly suggests an abscess. If an incision is made there is, however, no pus to give exit to; and no benefit, indeed the reverse, is derived from incision. Very often the process affects all the spots on the patient's head; sometimes a few may be left unaffected. As the hairs are cast from the follicles it is very evident that if the process affected all the diseased follicles the cure would, though severe, be thorough. Unfortunately a few hairs at the margin too often escape, and all the annoyance and suffering are in vain.

Ringworm of the Body (*Tinea circinata*).—When ringworm spreads to the body we see, just as in seborrhœa, how



KERION.

1982



TINEA CIRCINATA AND IMPETIGO.

differently the scalp and other parts of the body respond to irritants. The irritant, in this case the fungus, which merely causes faint redness and profuse scaling on the scalp, causes on the non-hairy skin considerable redness, scaling or the development of vesicles (*Herpes circinatus*). The scaly patches are usually circular, pinkish in colour, and often show a tendency to flatten in the centre. The vesicular patches spread more rapidly, and usually show the rings to which the disease owes its name. Not infrequently, when the disease has apparently left the centre, it re-appears, and concentric rings may develop. In certain regions, such as the groin and the axilla, where heat and moisture are present, the fungus grows with great rapidity, and the signs of irritation are so increased that this form of the disease is still commonly described as *eczema marginatum*. Commencing in the region of the fork, the disease spreads down the thighs, and, less frequently, up on the abdomen. It is usually easily diagnosed by its abrupt margin, and the fungus is readily found. This variety is common in hot countries, where it goes by various names (Dhobie's itch, craw-craw). It certainly lasts an unusually long time, but whether this is due to want of activity in treatment or to climate is uncertain. At all events, cases of *eczema marginatum* generally recover rapidly under treatment in this country, when the nature of the disease is recognised.

The annexed Plate shows the characteristic rings on the forehead; the child had ringworm on the scalp. The patch on the cheek is an interesting combination of ringworm and impetigo contagiosa. Both forms of the fungus may cause body ringworm. It is true that on the glabrous skin the fungus elements are more apt to be large and to develop into filaments than they are on the scalp, but this is explained by the increased moisture and blood supply, brought about by the inflammatory reaction. Children, the subjects of small-spored ringworm of the scalp, so frequently have patches on the neck and face that it is inconceivable that such patches are always due to the other variety of the fungus, as has been maintained by some observers.

Ringworm of the Beard (*Tinea barbae*).—The disease in this region presents itself in more than one form. It may

appear as *Tinea circinata*, ringworm of the body, of which the skin of the beard region forms a part. Here we have the rapid development of a ringed patch, which is fortunately as amenable to treatment as *tinea circinata* generally is. The more common variety, the old *Sycosis menti*, is a deeper infection, and the process generally bears a close resemblance to kerion. Thus the affected part is almost always swollen, nodular, and painful; the presence of nodules should always suggest ringworm. These nodules are shown in the adjoining Plate. The hairs do not break off so readily as they do in ringworm of the scalp, probably because they are stronger and more resistant, but they are looser and not so painful to extract as in sycosis. On cultivation the fungus of beard ringworm shows distinct differences from the other forms. The culture (Fig. 42) resembles a splash of plaster on a wall, and the surface has a characteristic powdered-sugar appearance.



FIG. 42.—Culture of Ringworm of the Beard.

Ringworm of the Nails.—In the last three years I have seen no fewer than twenty cases of ringworm of the nails, so that I can no longer speak of it as I formerly did as an astonishingly rare condition. My astonishment is now reserved for the complacency with which we diagnosed these cases as onychia and failed to examine them thoroughly. Dr. Cranston Low has published most of these cases in a recent communication to the Edinburgh Medico-Chirurgical Society (*Edin. Med. Journ.*, February 1911), which should be consulted by those desirous of further information. When the nail is affected it has a dull, opaque appearance, and tends to break. Sometimes the disease extends in a line, perhaps a quarter of an inch broad,

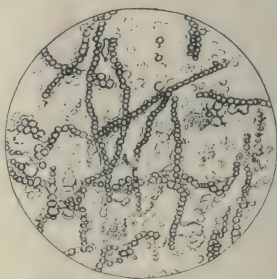


FIG. 43.—Ringworm of the Nail. Mounted in Liq. Potass.



ONYCHOMYCOSIS (RINGWORM OF THE NAILS).

2022



TINEA BARBÆ.

some distance down the nail, without spreading to the lateral portions. It can only be definitely diagnosed by examining scrapings well soaked in liq. potassæ under the microscope. The typical appearance of ringworm of the nails is shown on the Plate, and Fig. 43 shows the microscopic appearance.

PROGNOSIS.—If a case of ringworm of the scalp is left alone it will usually last until the child reaches the age of fourteen or fifteen, when it will disappear spontaneously. This fact must be kept in mind when considering the question of the severer methods of treatment, especially X-rays, in the case of children approaching that age. In the case of younger children, while prophecy is always rash, it is particularly foolish to speak of any period less than eight months as the likely duration of the treatment. The more experience one has in ringworm the longer one usually requires for its treatment.

Ringworm of the nails also requires much patience. Ringworm of the beard should be cured in from six to eight weeks; ringworm of the non-hairy skin (*Tinea circinata*) in from six to ten days.

TREATMENT.—When the cause of a disease is so accurately known as in this instance, treatment should theoretically be easy. Unfortunately this is not so in practice when the disease affects the scalp. The fungus is destroyed easily enough in the laboratory, but it is different when we are dealing with patients, the difficulty being to get the destructive agent brought into contact with it. Some, indeed, go so far as to maintain that it is useless to endeavour to destroy the fungus, and that all we can hope to do is to provoke such a reaction of the skin as will *indirectly* cause its death. It may be admitted that in the majority of cases of ringworm of the scalp, means other than the *direct* destruction of the fungus are generally the more useful.

In **Ringworm of the Body** (*Tinea circinata*) the fungus is superficial and easily reached. Here the directly destructive method is eminently successful. The unguentum hydrarg. ammoniat. or any anti-parasitic ointment, regularly applied, will soon get rid of the disease. Harm is often done by excessive strength of the application. The fungus does not require for its destruction concentrated remedies, which too often replace the irritation of the fungus by an irritation of

their own. The old-fashioned plan of painting such cases with tincture of iodine is a combination of the direct and indirect methods of treatment, and is often useful. Aldersmith recommends acetic acid 2 parts, liniment. iod. 1 part. This should be painted on every day or every other day, and should reach a quarter of an inch beyond the visible disease.

Ringworm of the Scalp.—Although possibly the variety of the fungus has some bearing on the prognosis of any given case (the large-spored variety being usually more easily got rid of than the small), it has none on the treatment. The direct method is shown in its least favourable aspect in treating ringworm of the scalp. The hair follicles are deep, the fungus extends throughout their entire length, and it is impossible to induce any destructive agent to penetrate to the bottom of every individual hair follicle. Still, parasiticide remedies have great advantages. Although much of the fungus is in the follicles, much is present on the broken hairs and in the scales surrounding them, and these are eminently open to the effects of local applications, which have the further important effect of checking the spread of the disease.

In an ordinary case of ringworm of the head of a child the first thing to be done is to have the hair cut short and the diseased spots identified. The hairs around each spot should be extracted. Care must be taken with regard to the use of brushes, towels, caps, etc., and the child should sleep alone. The head should be "scrubbed" daily with some antiseptic soap. I cannot agree with Morris that water, being an essential to the existence of the fungus, should be withheld. The fungi have no difficulty in getting all the moisture they require from the tissues, and frequent washing certainly diminishes the spread of infection, besides removing mechanically a large amount of fungus. I often tell my students that when a case of ringworm is discovered in a family, the treatment of the unaffected children is almost more important than that of the diseased one. In ringworm prevention is much easier than cure. The hair of all the girls as well as the boys should be kept short, and their heads should be washed daily.

THE DIRECT METHOD.—In considering the applications to be made, it should never be forgotten that much more depends on

the method of application than on any particular drug selected. The drugs which may be used are legion, and the actual selection is a matter of individual taste. Most of the mercury salts, copper salts, resorcine, formalin, salicylic acid, carbolic acid, boric acid, many of the modern synthetic compounds, etc., have the power of destroying the fungus.

The form in which they are applied is important. Seeing that the fungus extends down to the base of the follicle, it seems unreasonable to expect aqueous solutions to be of much value. The two forms of application with which to reach the fungus are ointments and soaps. The mere spreading of an ointment on the surface avails very little. It must be *thoroughly massaged* into the scalp with the thumb. The more prolonged and thorough this massage is, the more rapid will be the cure, and it should certainly occupy not less than ten minutes twice daily. Medicated soaps are theoretically more efficacious, since their power of removing grease should enable them to penetrate better. They do not, however, carry with them the medicament so well as do the ointments: still a combination of soap and ointment is often useful.

There are methods of increasing the activity of any given drug. Thus salicylic acid, with its solvent power on the epidermis, is a useful addition; carbonate of potash is another. The basis of the ointment is important, and should in some proportion at least be lanoline. It seems to be universally admitted that lanoline (*adepts lanæ*) has a greater penetrating power than the majority of the commonly used fats. If goose grease can be procured it may be substituted for lanoline. I think I have seen more rapid cures follow the use of an ointment containing half a drachm of iodine to the ounce of goose grease than any other ointment. But the real article is not easily procured. Useful ointments are the following:—

R Sulph. Præcip.	} āā ʒss	R Hydrarg. Oleatis.	grs. xl
Hydrarg. Ammoniat. }		Acid. Salicylici	grs. x
Acid. Salicylici.	grs. xx	Lanolini }	
Lanolini }		Vaselini }	āā ʒss
Vaselini }	āā ʒss		

Sig.—To be thoroughly massaged into the affected spots for at least ten minutes twice daily.

THE INDIRECT METHOD aims at stimulating the skin to destroy or throw off the fungus. The popular method is the application of tincture of iodine, which, in addition to its irritant action, has also a directly destructive one. It is, however, not very efficacious in ringworm of the scalp. Blistering is more often successful. Under this are included many forms of application. The blister is not necessarily produced by blistering fluid. The application of pure carbolic acid, recommended by some on account of its antiseptic powers, owes its value chiefly to the irritation which it sets up. Strong solutions of perchloride of mercury in spirit have the same action. No doubt these drugs destroy the fungus on the surface, but they do not penetrate into the follicles. The frequency of their application must be regulated for each individual case, and the irritation of one application should have nearly disappeared before another is made. Carbolic acid is applied pure, and the perchloride spirit, which is curiously irregular in its effect on different cases, should commence at a $\frac{1}{2}$ per cent. and be increased as experience shows to be necessary. Chrysarobin, which is a favourite remedy with Unna and Morris, requires care in its application to the head, on account of its tendency to cause erythema of the face, and conjunctivitis. I look on its action as mainly, if not entirely, indirect. Unna applies it in his compound (5 per cent.) chrysarobin ointment, and covers the forehead with a special gelatine dressing to prevent the drug from reaching the face. Morris rubs in a chrysarobin ointment for ten minutes, and then wipes away the excess. A useful way of applying it is in the form of the salve stick, which is a handy and economical method of treating many skin diseases. It is composed in this instance of—

R	Chrysarobin	3ij
	Wax	3ij
	Lanoline	3v

These are melted together and shaped into a rod like those with which our grandmothers used to fix their curls on their foreheads. The risk of the chrysarobin affecting the skin of the face is less than when applied in ointment. I can testify to the merits of Hodara's method of applying this drug. He

advises that it be applied for three or four days and then wiped off with olive oil. He then leaves the part alone for a few days, when the cycle is recommenced. I have used his formula (Chrysarobin 3j, glycerine, chloroform āā 3ss) daily for some weeks, without in any case setting up serious dermatitis, so that the Scottish scalp is apparently more resistant than the Turkish.

A rather heroic mode of treatment is that advocated by Aldersmith, namely, the application of *croton oil*. The object of this is to imitate Nature, and to produce what is known as *artificial kerion*. It is a dangerous remedy, and must be used with the greatest caution, for in its effects it often outstrips Nature and leaves the part permanently bald. If it is to be used at all it should get a fair trial, and be used exactly as Aldersmith directs. A small part is selected in order to test its effects. The hair is cut short for some distance around the spot, and carbolic lanoline is applied, so as to limit the spread of the oil. One drop of croton oil is then brushed over the part with a small camel's hair brush, and the part covered with a small *linseed meal* poultice. The poultice is directly applied and covered with oil silk. Means must be taken to prevent it slipping, as if it does the pustules induced by the oil will be spread. The painting is repeated daily or every alternate day until either the whole part swells up, as it does in kerion, or until a purulent folliculitis is produced without elevation of the skin. The croton oil may then be stopped, but the poultices should be continued until all the hairs have fallen from the follicles. The after treatment is that of kerion. If the diseased hairs are few in number they may be treated by the application of the oil on a blunt needle passed into the diseased follicles.

The effect of croton oil must always be carefully watched, as it may produce sloughing of the skin. The first indication of this is, according to Aldersmith, a whitish pellicle on the surface, quite different from the redness usually produced.

THE MECHANICAL METHOD.—Theoretically, epilation is a valuable addition to any other treatment. The removal of the diseased hair is clearly most desirable. Unfortunately, it is in the majority of cases impossible, because the hairs break off in the forceps, and the diseased part is left in the follicle.

In the early stages of the disease an expert may be able to remove entire a certain proportion of the affected hairs, but it is questionable whether the benefit repays the time required. But as the disease improves and the hairs are less affected its value becomes greater, and it is a good practice to extract the apparently healthy hairs around small diseased areas, for some of them will almost certainly be in the first stages of infection.

X-Rays.—In the second edition of this book, published in 1902, I referred to the fact that I had used X-rays in the treatment of ringworm, but that owing to the risks and uncertainties of the treatment I was not prepared to recommend them for general use. Since then methods have been greatly improved, and, thanks largely to the ingenuity of Sabouraud, it must now be recognised that in the X-rays we have the most efficient means of treating ringworm. The method is, however, by no means free from risks, nor is it so invariably successful as its more enthusiastic exponents unconsciously suggest. As no one will dream of using the method simply from this description, a very brief allusion to the technique will suffice. Briefly, it consists in the exposure of the affected area for a definite limited period (generally about twenty minutes) and at a definite distance to the action of the rays. Some ingenuity is required to so arrange the tube that each part gets the proper exposure—no more and no less. If it gets more, unpleasant and sometimes serious reaction is produced; if it gets less, the hairs do not come out. Assuming, however, that everything has gone right, in between two and three weeks from the exposure the hair begins to fall out, and in another week the exposed areas should be completely bald. The short diseased hairs do not come out so easily as do the long healthy ones, and their fall should be assisted by vigorous washing and scraping with a blunt instrument, such as a paper cutter. Antiseptic ointment should be applied to destroy any remaining traces of fungus. Supposing everything to have gone well, the new hair begins to be evident in about six weeks, and in three months has completely re-grown.

Now, if every case followed this orderly rule one would

have no hesitation in saying that all cases of ringworm should be treated by X-rays, for apparently no evil results are produced when all goes well. Unfortunately, there are a good many drawbacks to the method. The first has already been alluded to. It is exceedingly common for small bits to escape the full dosage, and for the hair to remain on those parts, and one is faced with the difficult problem of a second dose. Only when a rapid cure is a matter of extreme urgency should this be administered less than six weeks after the first, and then the most rigorous protection of the bald places must be enforced. The other extreme is less common, though I have seen quite a number of cases in which considerable reaction was produced, and one or two in which apparently permanent baldness has resulted. There is, however, one drawback which I think has not received the attention it merits. When the disease is confined to one patch, or to one region of the scalp, the X-rays would seem to be an ideal method of treatment. But the loosening of the hairs, which they bring about, very much increases the risk of spreading the disease, and in spite of the strictest injunctions it is by no means uncommon to see the disease actually spread by the treatment. Of course, this ought not to occur; the hair ought to be cut short, the head washed twice a day, and kept anointed with an antiseptic ointment. But it does occur, and I am by no means so favourable to the X-ray treatment of single patches as I once was.

Before deciding on the use of one or other of these more drastic methods, one must take into serious consideration the fact that the disease tends to disappear about the age of fourteen, even if it is left altogether alone. There is something in the adult scalp which resists the attack of the ringworm fungus, and, while using these severe measures, we should keep in mind that our researches should be directed to the discovery of what it is to which this immunity is due. We have made some experiments with vaccines of the fungus, but as yet the results have not been sufficient to warrant publication. Recently it has been stated that a sort of von Pirquet reaction can be produced in patients who have suffered from ringworm even years previously. Since ringworm is not a

disease in which one attack protects from another, and since adults, though immune on the scalp, are not so on the rest of the body, it would seem that this immunity of the scalp is not the same as that with which we are partly familiar. But it is the discovery of this immunity which will solve the question of ringworm.

Kerion.—When this condition has developed the essence of treatment is an attitude of masterly inactivity. Stimulant applications never do good, and often do harm. Either zinc ointment, or perhaps still better starch poultices, should be applied until the irritation subsides, and the part flattens down to its original level, when it must be carefully examined in order to discover whether any of the fungus has survived. As a safeguard, it is well to remove all the marginal hairs for some distance beyond the inflamed patch. The part remains red for a considerable time, and if the hair be long in reappearing, some stimulant application, such as turpentine, should be used. Generally, however, no treatment but the soothing poultice is required.

Ringworm of the Beard.—As already indicated, ringworm of the beard region may appear in two forms. It may spend its force on the skin, and run the course of ordinary *tinea circinata*. According to some, this is the antecedent stage of the severer form. With that opinion I do not agree. At all events, in the many cases of nodular ringworm of the beard which have come under my notice there is usually no history of any such commencement. This variety is further as amenable to treatment as is *tinea circinata* generally, disappearing in a few days under the application of unguentum hydrarg. ammoniat. or other germicide ointment.

In typical ringworm of the beard we have not the same difficulties with regard to epilation as in ringworm of the scalp. The hairs here do not so readily break, the extent of the disease is generally fairly defined, and epilation is of the very first importance. The hairs over the diseased part should be allowed to grow long enough to be easily seized by the forceps, and any part where there are nodules should be thoroughly depilated. After this has been done some antiseptic ointment should be rubbed in, and, as the diseased follicles

are now all patent, the ointment has ready access to them. While any desired antiseptic may be used, I have a definite preference for a 10 per cent. oleate of copper ointment. Ringworm of the beard has about it none of the despair which attaches to ringworm of the scalp, and it is rarely necessary to have recourse to the X-rays.

Ringworm of the Nails.—This is, as may naturally be expected, a very obstinate affection. It is difficult to destroy the fungus in a hair follicle, and still more so to destroy it in a hard substance like the nail. As much as possible must be cut away, and the remainder should be scraped down with a piece of glass as thin as possible, before the application is made to it. An unusually large series of cases of ringworm of the nails has enabled me to test the efficacy of various methods. The Harrison method, for which the following two solutions are required:—

R	No. 1.—Liquor Potass. }	.	.	.	.	aa	ʒss
	Aq. Distill. }	.	.	.	.
	Potass. Iodidi	.	.	.	.	ōj	
R	No. 2.—Hydrarg. Perchlor. .	.	.	.	.	grs. iv.	
	Spirit. Vini }	.	.	.	.	aa	ʒss
	Aq. Distill. }	.	.	.	.

is used as follows:—

No. 1 is applied on a piece of lint and covered with protective. After remaining on for fifteen minutes, a piece of lint soaked in No. 2 is applied for twenty-four hours. The theory is that the iodide dissolved in the liquor potassæ is enabled to make its way among the softened nail cells, and that it is followed by the mercury, which combines with it to form the red iodide in the immediate neighbourhood of the fungus. This method, which is sometimes followed by unpleasantly severe effects upon the scalp, is useful in ringworm of the nails.

It is, however, very painful, and after trying a number of methods we are satisfied that the best is to wrap up the end of each affected finger separately with lint dipped in Fehling's solution and cover it with a rubber finger-stall. In twenty-four hours the nail is often so soft that it can be entirely removed, and the pain experienced is nothing like so great as that associated with Harrison's treatment. We tried other methods—

sulphate of copper without the additional ingredients of Fehling's solution—and found it valuable, though not so valuable as the combination. Perchloride of mercury and pyrogallie acid both got a thorough trial, but they, too, were more painful and not so efficient. Most of the patients were young women with several nails affected, and different methods were tried on the same hand. The patients were interested in the species of competition, and nearly all agreed that the Fehling nails did best.

Ringworm is sometimes spoken of as the *opprobrium dermatologicum*, and we dermatologists must accept the accusation. But the opprobrium does not lie only on the dermatologists. The prevalence of ringworm is a disgrace to all concerned, and it is high time it was taken in hand by the Public Health Authorities. It is only those who have had the disease in their own families who fully appreciate its importance, and have brought home to them the interruption not only to school but to education in its broadest sense. It is not good for a child of eight or ten years of age to be isolated from its fellows and treated as a social leper. In Paris the matter has been seriously taken up, and in the ringworm schools so much has been done that Sabouraud—perhaps unduly sanguine—hopes to stamp the disease out of Paris in a few years. The Metropolitan Asylums Board has done a good deal in a similar way in London, but our other chief cities still virtually ignore the disease. The blame for the spread does not altogether lie on one set of shoulders. As a profession we have not taken a serious enough view of it, and too many of the older generation are in the habit of speaking far too lightly of the disease to their patients. Hardly a week passes without my seeing a child who is attending a public school, the parents being often perfectly aware of the fact that the disease is still active. It is often, too, my painful duty to report on children who have been certified as cured and sent back to school with the disease rampant. I am perfectly well aware of the reason. The public, encouraged by the older generation, look upon ringworm as a trivial disease which any doctor ought to be able to cure in a few weeks, and they convey to the doctor the impression that if he is not able to do this some chemist or veterinary surgeon is. It must be realised all round that ringworm is not a trivial disease, that it is exceed-

ingly difficult to cure, and that until it is absolutely cured strict precautions must be taken. Probably the nearly cured cases, in which these precautions are relaxed, are the worst cases for spreading infection.

No patient should ever be certified as free from ringworm unless, on a careful examination, *after three weeks without any treatment*, no scaling and no broken hairs are to be found. As long as these persist there is certainly disease present, and before giving a certificate the head should be examined, not casually, as is too often done, but carefully with the aid of a lens. Personally, I never give a certificate that a child is free from ringworm. I simply state that, having carefully examined the patient, I can detect no trace of the disease.

FAVUS (HONEYCOMB RINGWORM)

(*Favus—a honeycomb*)

Favus is another disease of the hair, hair follicles, and surface epidermis, due to the growth of a fungus. It is curiously capricious in its geographical distribution. It is common in France, rare in Germany, common in Scotland, and it was almost unknown in the south of England until the action of the Russian Government sent Jews and favus together to London. Like ringworm, it may affect any part of the skin, and even the mucous membranes, but, like it, it is most common upon the scalp. Its most striking feature is the production on the surface of rounded, cup-shaped crusts, or *scutula*, but it may also give rise to a moist dermatitis with vesicles, not unlike *tinea circinata*. Fig. 44 is from a photograph of a typical example of long-standing favus of the scalp, showing the usual extensive destruction of the hair. It is interesting to note that the hair may return even in such severe cases when the disease is cured, if the patient is young.

The fungus which causes the disease was described in 1849, and was named by its discoverer the *Achorion Schönleini*. It differs from that of the more familiar ringworm both in its method of growth and in its method of attacking the hairs. The hairs affected by favus are not broken off as are those of ringworm, but they differ from the normal hairs around in

their stiff, lustreless, faded appearance. When such a hair is examined under the microscope¹ it differs entirely from those affected by any of the varieties of ringworm. The fungus



FIG. 44.—Favus.

elements are longer; they fill the interior of the hair, and obliterate altogether its normal structure; there is no sign

¹ The staining method described under ringworm is of little use in favus, except in expert hands. The fungus in the hair sheath is easily stained, that inside the hair only with great difficulty. As a rule there is so much fungus that it is easily detected by the potash method.

of the medullary canal (Fig. 45). If a proportion of a scutulum adheres to the hair the difference from the ringworm fungus is not so striking, for here the elements are shorter and more closely resemble the spores of ringworm, though it is true they generally tend to be oval in shape. The scutulum is a sulphur yellow mass of varying size, showing in the centre a depression which becomes more marked as the scutulum enlarges. This is not due, as used to be taught, to the anchoring down of the centre by a hair, but to the fact that the fungus elements of which the scutulum is almost entirely composed are more luxuriant and moist at the margin, while at the centre they are dry and closely packed together (Fig. 46). A scutulum develops when the fungus is grown on nutrient agar in a test-tube (Fig. 47). When a scutulum is forcibly removed it is seen to occupy a depression in the skin, the surface of which is moist and red. The baldness so often caused by favus (Fig. 44) is due to the pressure of the hair roots between the scutulum and the skull. The disease itself does not tend to destroy the hairs—their destruction is merely mechanical—and if the scalp is kept free from scutula by careful washing there is little interference with their growth. If left



FIG. 45.—Favus hair — shows fungus in the interior, and portion of a scutulum through which it grew.



FIG. 46.—Section of a Scutulum *in situ*: very thin layer of epidermis beneath, thin horny layer above. The fungus in the centre is more closely packed, hence the depression. ($\times 100$.)

alone, favus steadily advances until the entire scalp is involved;

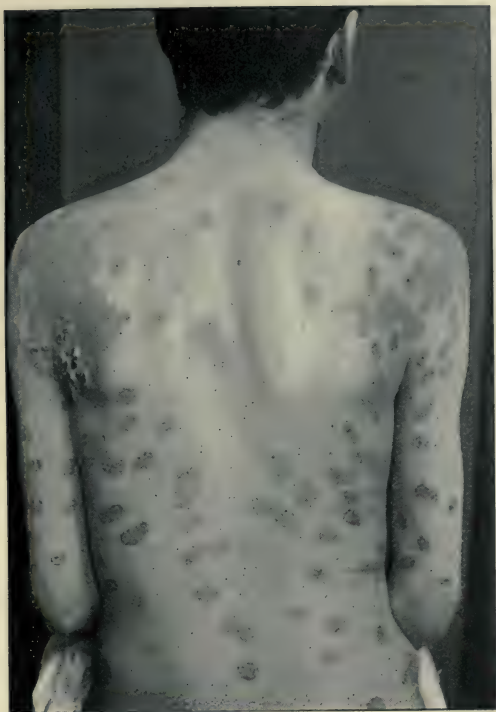
and if the case is neglected and scutula are allowed to form, the disease may ultimately cure itself by destroying all the follicles, and thus producing complete and permanent baldness.

Two domestic (?) animals, the cat and the mouse, are attacked by this disease, and are in many cases responsible for spreading it. In the mouse the disease is much more serious than in the human subject, for the pressure effects of the scutula are so great that the bones of the skull are eroded and the animal dies. The cat acquires the disease from its victim, and one could regard with equanimity this illustration of retributive justice, were it not that the cat often carries the disease on to the children of the household. In a very large number of cases, both of favus and ringworm, domestic pets are the source of the disease. In many cases favus is transmitted from one child to another, but it is remarkable how often one finds one member of a family alone affected, while, unless extraordinary pains be taken, such an experience is quite exceptional in ringworm.



FIG. 47.—
Culture of Favus.

DIAGNOSIS.—When scutula are present there can be no difficulty in diagnosis. In no other disease are such structures produced. The mousy, or damp straw odour, which some lay much stress upon, is due to the decomposition of dead fungus, and a somewhat similar odour is often noted on the heads of neglected children. If scutula are not present the mode of infection of the hair should suffice for diagnosis; if not, the case may be left to itself for a few days, when scutula will develop at the follicles. On the non-hairy skin the scutula, when they do develop, are usually more perfect than on the scalp, but quite frequently their place is taken by a dermatitis, sometimes moist, sometimes dry and scaly, and sometimes spreading in rings like *Tinea circinata* (see Plate). In the scales, of course, one might be fortunate enough to find the fungus elements, but as a rule the disease is present elsewhere in more typical form, and thus the diagnosis is simplified.



FAVUS CORPORIS.

The disease sometimes attacks the nails. It may affect the nail proper, or may limit itself to the nail bed, where a scutulum develops and raises up the nail plate. As in ringworm, considering the facilities for inoculation, one is surprised at the rarity of the infection of the nails. Treatment on the same lines as in ringworm of the nails (*q.v.*) is indicated.

PROGNOSIS.—Left to itself the disease goes on for ever. A patient was intermittently under my care who had had the disease since 1845, and had communicated it to all her children. Hughes Bennett gave a clinical lecture on her case, and demonstrated the recently discovered fungus to his class, and Warburton Begbie and Grainger Stewart had her under their care.

TREATMENT.—If a case is discovered while the area affected is small it can readily be cured by epilation and the thorough application of some antiseptic ointment.

In extensive cases only one method presents any reasonable hope of cure, namely, the application of the X-rays. I am aware that some of my colleagues in other places recommend other methods of treatment, but if there is one disease which an Edinburgh dermatologist is justified in dogmatising on it is favus. At the time of writing there are over fifty cases under treatment in the Royal Infirmary. The numbers are greater than any previously recorded, mainly because of the recent appointment by the School Board of an inspecting medical officer. In referring to the use of the rays in ringworm I have expressed myself with our national caution; in favus the prognosis under other treatment is so hopeless that any risk, even that of permanent baldness, is justified. Children affected with favus get no education, and when they grow up no employment; the boys drift into the criminal classes and the girls to the streets. I do not content myself with advising the X-Ray treatment; I insist upon it, and if the parents decline I refuse to undertake the case at all.

The method is practically the same as that mentioned under ringworm, save that I do not allow undue precaution to conflict with efficiency. After the hair has been removed an ointment of cupri sulph. ʒj, adipis ʒj, is regularly rubbed in.

As I write these words, the Edinburgh School Board is taking steps towards the establishment of a special school to take favus in hand, but it is with something of patriotic regret that I chronicle the fact that they have been anticipated by the London County Council, which energetic body succeeded in stamping out favus in the east end of London in a short sharp campaign of two years.

ALOPECIA AREATA

(ἀλώπηξ—*a fox* ; *foxes often have bald patches on their coats*)

Alopecia areata is characterised by the development of small round spots more or less completely denuded of hair. These may increase in size and number, until in severe cases every hair upon the body disappears. The most common seat of the disease is the scalp, and there the appearances are exceedingly characteristic. The patches are rounded, the skin is smooth and somewhat depressed below the surrounding level, not because it has undergone any atrophy, but because the hair roots, which make up so large a proportion of the scalp, have disappeared. The surface is not always absolutely free of hair. As a rule, at the margin, and here and there over the surface, are found those short broken hairs having the shape of a "point of exclamation," which are so characteristic of the disease. But there is another type of the disease where, at irregular intervals over the surface of the patch, the point of a hair may be seen protruding from a follicle mouth. This may be lifted out by the forceps without any effort, and it will be noted that about four-fifths of the hair lies beneath the surface. Very often it is surrounded at the level of the follicle neck by a collar of sebaceous material.

In some cases the scalp is notably greasy ; in others there are abundant scales of seborrhœa, but in many cases the scalp between the diseased patches seems quite normal.

I think we are apt too generally to ignore the presence of this disease on other parts of the surface than the scalp and face. It is quite commonly present on the arms and legs, and

though its presence there does not distress the patient, I believe these ignored patches are not infrequently the sources of a fresh infection of the scalp.

ETIOLOGY.—For a long time clinical evidence has been accumulating in favour of the communicability of this disease. Bowen reports an epidemic in a girls' home where, after the introduction of one case, sixty-three out of sixty-nine girls



FIG. 48.—Alopecia areata.

were affected. On the re-admission of the same patient six years later a second epidemic occurred, in which forty-five out of forty-nine children were attacked. Less striking instances of infection come under the observation of anyone who has much experience of the disease. When I was preparing the paper with which I introduced the discussion on this subject at the International Congress of Dermatology in Paris I found some evidence suggestive of contagion in eighteen out of sixty-three cases.

Sir Jonathan Hutchinson's theory that alopecia areata is a sequel of ringworm is one with which I do not agree, and yet I must admit that one sees now and then cases seeming to support it. It is not uncommon in the late stages of ringworm to find hairs closely imitating the exclamation ones of alopecia areata, while in some cases of ringworm the hairs fall out all over the patches without any antecedent inflammation, and were one not familiar with the history one might diagnose such cases as alopecia areata. I have seen the hair growing in ringworm in light coloured patches exactly as it does in alopecia areata, and in one such case I found that not only had a diagnosis of ringworm been made, but I had actually cultivated the fungus from the patient and his brother. These, however, are but isolated instances in a comparatively large experience of both diseases, and ought, I believe, to be looked upon as mere coincidences. Sir Jonathan, with his enormous experience, has no doubt met with many more of these coincidences, and has attributed to them, I suggest, more importance than they deserve.

It has been suggested that alopecia areata is really unrecognised ringworm. The fact that I made cultivations from something like fifty consecutive cases of alopecia areata without once growing a semblance of fungus is, I think, sufficient to bury that theory. I have examined many cases in the light of Jacquet's theory that the disease is produced reflexly by the irritation of carious teeth. Needless to say, I found these often present, but the theory appears to me to ignore the fallacy of the undistributed middle.

There are cases of patchy baldness which are, I believe, correctly attributed to nerve influence. They are generally associated with a history of injury, and are irregular, often angled in shape. Exclamation hairs are conspicuous by their absence.

When hairs from a case of alopecia areata are examined by Morris' method, as described under ringworm, organisms are invariably found. In some cases they are few in number, in others they are as abundant as the fungus elements in small-spored ringworm, forming a continuous sheath around the hair. This is specially the case in the second variety of

exclamation hairs, where a large part of the hair lies below the surface. The existence of these organisms has long been known. They were originally described by Dr. George Thin, who gave them the name of *Bacterium decalvans*. The organism is small, rather longer than broad, although it is not easy to make this distinction in all specimens.

Sabouraud, who has in the last few years published many papers on the subject, says that if the hairs are inoculated on a specially prepared acid medium a whitish growth first of all appears, but as time goes on a brick-red colony develops in the centre, which consists of myriads of a very fine bacillus,—according to Sabouraud the cause of the disease. (See Acne and Seborrhœa.) From cultures of this organism he prepared a toxin, the injection of which into guinea-pigs produced patchy baldness. My own observations do not confirm those of Sabouraud, and I am inclined to think that the white culture which grows in every case is in all probability the *staphylococcus epidermidis albus*, which has somehow acquired a virulence usually foreign to it.

Pavloff, of St. Petersburg, reports that the inoculation of this latter organism, cultivated from cases of alopecia areata, on the skin of rabbits, produced desquamative dermatitis and “alopécie en aires.”

DIAGNOSIS.—The diseases which may be confounded with alopecia areata are ringworm and lupus erythematosus. The “bald” variety of ringworm often closely imitates alopecia areata, but when the surface of the patch is carefully examined with a lens it will be noticed that small portions of the hairs are still present in the follicles. It is sometimes impossible to extract these with the forceps, but they are always easily removed by a comedo extractor, and then examination under the microscope clears up all doubt.

Lupus erythematosus of the scalp is confused with alopecia areata only because it is a comparatively rare disease. The affected area is irregular in shape, the border is elevated, hyperæmic, and scaling, and the centre is harder than in alopecia, being indeed composed of scar tissue.

“Point of exclamation” hairs are not absolutely characteristic of alopecia areata; they occur also in late stages of ring-

worm, and sometimes in seborrhœa, though in much smaller numbers.

PROGNOSIS.—The prognosis of alopecia areata is very easy. If a patient is under forty the physician may confidently predict complete recovery. No doubt exceptions occur, but they are so few that one may cheerfully take the risk of them. Recovery may be, and often is, slow, and the disease very often gets worse before it gets better. After forty, every year added to the patient's age makes the prognosis less good, and one's prognosis should be more guarded, though the majority do eventually recover.

TREATMENT.—Since time may in most cases be trusted to cure the disease, it may, if desired, be left alone. There is, however, no doubt that treatment hastens recovery. I do not propose to discuss internal treatment. If the patient is anæmic, or suffers from any other disease, that should be appropriately treated. The local treatment is very much the same in its general principles, whether the physician is a believer in the infective nature or not. The stimulant remedies, such as acetic acid, cantharides, ammonia, etc., set up irritation, and thus indirectly destroy organisms; and, on the other hand, the antiseptics employed to destroy organisms have all some stimulant properties. It is usually difficult to satisfy oneself to which application the improvement is really due. The last-used remedy gets the credit, and those whose experience is small are apt to attach too great importance to mere coincidence. It often happens that two or three cases in succession rapidly recover, while the next twenty may be utterly irresponsive to the same treatment. I believe the best remedy to be *lactic acid*, which I order in a spirituous lotion.

R. Acidi Lactici	.	.	.	.	.	.	3j to 3j
Ol. Ricini	.	.	.	.	.	.	3j
Spt. Vini	.	.	.	.	.	.	ad 3iv

This should be applied daily, at first cautiously, but more and more vigorously as the scalp gets used to it.

Sulphur, in the form of *sulphur ointment*, first recommended by Thin, and more recently by Sabouraud, is often useful.

Chrysarobin, either dissolved in glycerine and chloroform or in the form of the chrysarobin stick (p. 204), is, in the opinion of some, the best remedy. *Perchloride of mercury* in spirit, from $\frac{1}{2}$ to 2 per cent., is not only useful as an antiseptic, but is a direct stimulant of hair-growth. Other remedies used are ammonia (a favourite with Allan Jamieson):—

R	Liq. Ammoniae fort.	}	.	.	.	.	an	ss
	Chloroformi		.	.	.	.
	Olei Sesami		.	.	.	.
	Olei Limonis		.	.	.	.		ss
	Spt. Rosmarini		.	.	.	.	ad	ss

Sig.—To be used cautiously, until tolerance is acquired.

turpentine, paraffin oil, etc., etc. It is well, when any treatment is apparently unsuccessful, to humour the patient by making a change. If this is not done the patient will probably change not only his medicine, but also his physician; and as the last medicine gets all the credit, so does the last physician.

Alopecia areata could hardly hope to escape the epidemic of electric treatment. Finsen light, high-frequency currents, and X-rays have all been recommended. I have tried them all, and I can only say that they do not appear to me to have any advantages over the simpler methods. I have seen cases recover under exposure to the electric arc lamp, the patient being exposed for an hour once or twice a week, at a distance of about a foot from the lens, to the rays from the London Hospital lamp. The effects of the uviol or mercury vapour lamp are very highly spoken of by Kromayer, but the lamp is very fragile, and requires great care in working, producing a smart erythema with quite a short exposure. I have not had it long enough in use to pronounce on its merits.

Since I believe that there are grounds for regarding alopecia areata as contagious, I am bound to face the question of school attendance. So far as regards day schools, I believe the risk of infection to be so slight that it may be ignored. Certain ordinary precautions should be taken. The affected child should certainly not use the same towel or hair-brush as the others, and the

most exemplary punishment should be visited on it if it is ever detected exchanging hats. Boys should not be allowed to play football.

The case of boarding schools is altogether different. The children are brought into much more intimate contact, and the risks are therefore greater.

If I were the medical officer of a boarding school I would not allow a case of alopecia areata to remain; but it seems to me most unjust that in cases of ringworm, about which all are agreed, as well as in this disease, the parent of the child should bear all the expense. The child is sent away, in the case of ringworm at least, not in his own interest but in that of the rest of the pupils, and the boarding fee should be returned to the parent from the date of the removal. In the case of alopecia areata, while it would be mainly in the interests of the other pupils that I would insist on removal, it is also in the child's own interest. He is necessarily something of an outcast because of the precautions which are invariably taken. If the disease is widespread he is an object of ridicule to some at least of his fellow-pupils, and even in the best regulated boarding schools it is impossible to have the necessary treatment carried out so efficiently as at home. I am quite aware that these views will be regarded by many as extreme and by some as ridiculous, but I am consoled by the knowledge that I am not the only—I think I may say—experienced dermatologist who holds them.

Folliculitis decalvans.—This disease, a rare one, seems to be related distantly to alopecia areata. In that disease signs of inflammation require the microscope for their detection; in this the inflammation is very evident, and is specially severe around the hair follicles. Commencing in one or two follicles, it spreads centrifugally, and leaves a centre like a scar. The hairs, when extracted, show swollen, glassy-looking sheaths suggestive of those seen in sycosis. Although the disease is rare, I have been fortunate enough to see four or five examples of it, in two of which it was associated with typical alopecia areata in other members of the family. In one, which I saw after the lapse of many years, the hair had entirely regrown.

The treatment should be mildly antiseptic and stimulant.

THE NAILS

STRUCTURE.—The accompanying diagrams, which are after Unna and Van Brun, show the structure of the nail in longitudinal and transverse sections. The nail is developed in a very similar method to the hair, from a depression of epidermis,

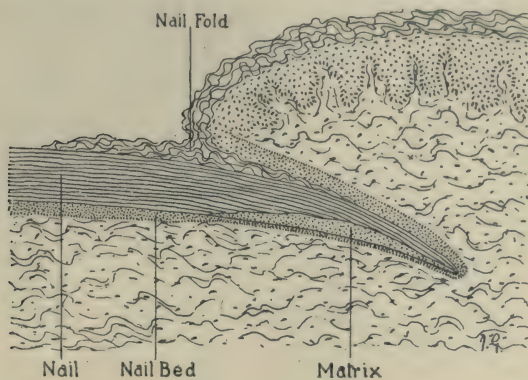


FIG. 49.—Longitudinal Section of Nail (Diagrammatic).

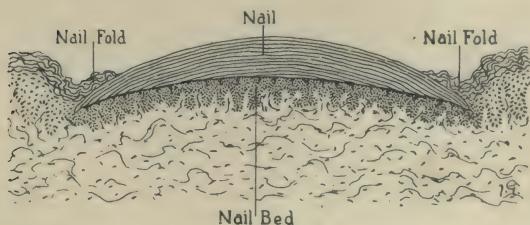


FIG. 50.—Transverse Section of Nail (Diagrammatic).

the central cells of which are modified to form the nail cells. The difference consists in the fact that the nail does not grow free like the hair, but one side of it is laid flat against the skin and is partly fixed to it by a system of ridges. The white crescent, the lunula, seen in most persons on the thumb at least and in many on all of the nails, marks the anterior lower limit of the nail matrix, but the nail also grows from the under sur-

face of the nail fold. The nail bed, that part covered by the nail which lies in front of the lunula, has no concern in the growth of the structure; the nail is simply pushed along it by the addition to its substance behind. If growth be more active in the nail fold the nail is usually thick and broad; if the cells in the lunula be more active, then the nail is thinner and finer and the lunula is more in evidence. Fine nails, with a well-marked lunula, are believed to be associated with blue blood; they are undoubtedly hereditary.

The white spots made much of by fortune-tellers are due to the presence of air between the nail cells, and the transverse grooves which often mark the date of some severe illness are the result of a temporary arrest of growth at that period. Longitudinal grooving is the mark of irregular cornification of the nail substance, and unless associated with obvious local disease is usually the expression of some systemic disturbance (gout, etc.).

The diseases of the nails are not easy either to describe, to understand, or to treat.

Onychia (ὄνυξ—the nail) is a purulent inflammation of the matrix, bed, or wall, and the term is applied whatever be the cause. It occurs in syphilis, and is not infrequently associated with tuberculosis, but some injury is almost invariably the exciting cause. Syphilis is said specially to attack the toes of adults; tuberculosis, the fingers of children. The annexed illustration was from a case which was probably tuberculous in origin. Onychia must be treated on general surgical principles with reference to its cause, and it is usually necessary to remove the nail and to use antiseptic treatment. **Onychauxis** (ὄνυξ—αἰξω—I grow) is the term descriptive of increased growth of the nail, whether it be in length or in thickness, and the term **Onychogryphosis** (γρύπωσις—curvature) is used when this increase is twisted like a ram's horn. These two conditions are usually found in bed-ridden patients. **Koilonychia** (κοίλον—a cavity), or spoon nail, is usually associated with anæmia, and is the reverse of the condition of club finger seen in phthisis, etc.

The nails are affected in many of the commoner skin diseases, especially in psoriasis and eczema. Either disease may affect



ONYCHIA (TUBERCULOUS).



the *nail bed* only, when the result on it is purely mechanical; the nail is raised from its proper resting-place, its structure remaining unaltered. If, however, the disease affect the matrix or the nail fold, the nail is deformed in various ways, the surface being irregular or grooved in one or other direction. In severe eczema the nail is often much narrower than normal, and grows rapidly. In psoriasis little rounded black depressions are the most characteristic lesions. The nails are also involved in lichen planus and in pityriasis rubra. Their affection in ringworm and favus (onychomycosis) has been referred to under the heading of these diseases.

DIAGNOSIS.—The diagnosis of these affections is usually made from the presence of signs of the disease elsewhere. As Crocker said, when the nail affection is the sole manifestation diagnosis is little more than guesswork.

TREATMENT.—Just as in ringworm it is exceedingly difficult to reach the bottom of the hair follicle, so in diseases of the nail it is difficult to reach the seat of the disease. In those cases where the nail bed is affected the difficulties are not so great, and suitable applications may be made to penetrate beneath the nail. When the disease affects the nail matrix or nail fold, patient and prolonged treatment is required. The best applications are *tar* and *resorcine*. They must be applied continuously, and their penetration favoured as much as possible by the wearing, at night at least, of rubber finger-stalls. Tar ointment may be applied at night, and a solution of resorcine (2 to 10 per cent.), either in water or spirit, during the day. Arsenic given internally has an undoubted influence in promoting recovery, and should have a fair trial in every case.

Severe affections of the nail usually point to some constitutional defect, and tonics in addition to the arsenic are generally indicated.

LICHEN PLANUS

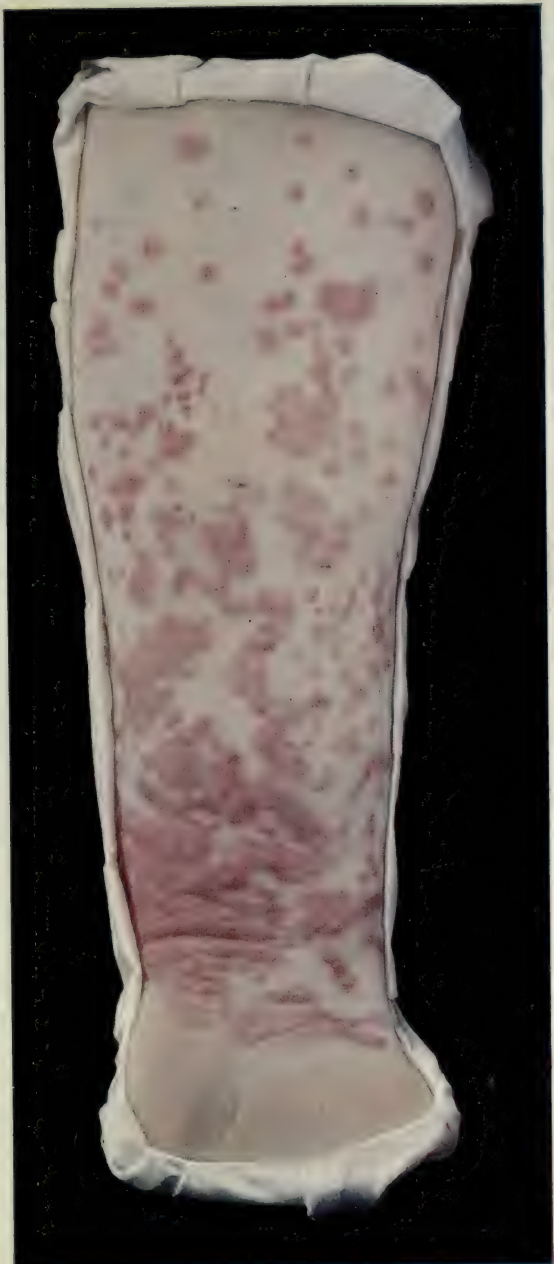
Lichen planus forms a sort of connecting link between the inflammations of the epidermis and those of the corium, for in it both are affected, and there is some room for difference of opinion as to which is the primary seat of the disease. It will probably before long find its resting-place alongside of the

infective granulomata, and investigators would do well to search for an organism analogous to the spirochæte of syphilis.

The word lichen is derived from the Greek λειχήν, meaning the fungus which we also call by that name. The chronic form of the disease does somewhat suggest the comparison, but the acute form is not in the least like a lichen. The older dermatologists used the word much more widely than their successors, applying it to all diseases in which papules were a prominent lesion, even irrespective of the fact that the papule might only be a stage in the process. Thus the papular variety of eczema was known as lichen simplex, and when a vesicle developed on the summit of the papule the adjective *agrius* (ἄγριος—angry) was substituted. The term was also applied to other papular diseases, such as that now recognised as seborrhœa corporis, which was called lichen marginatus.

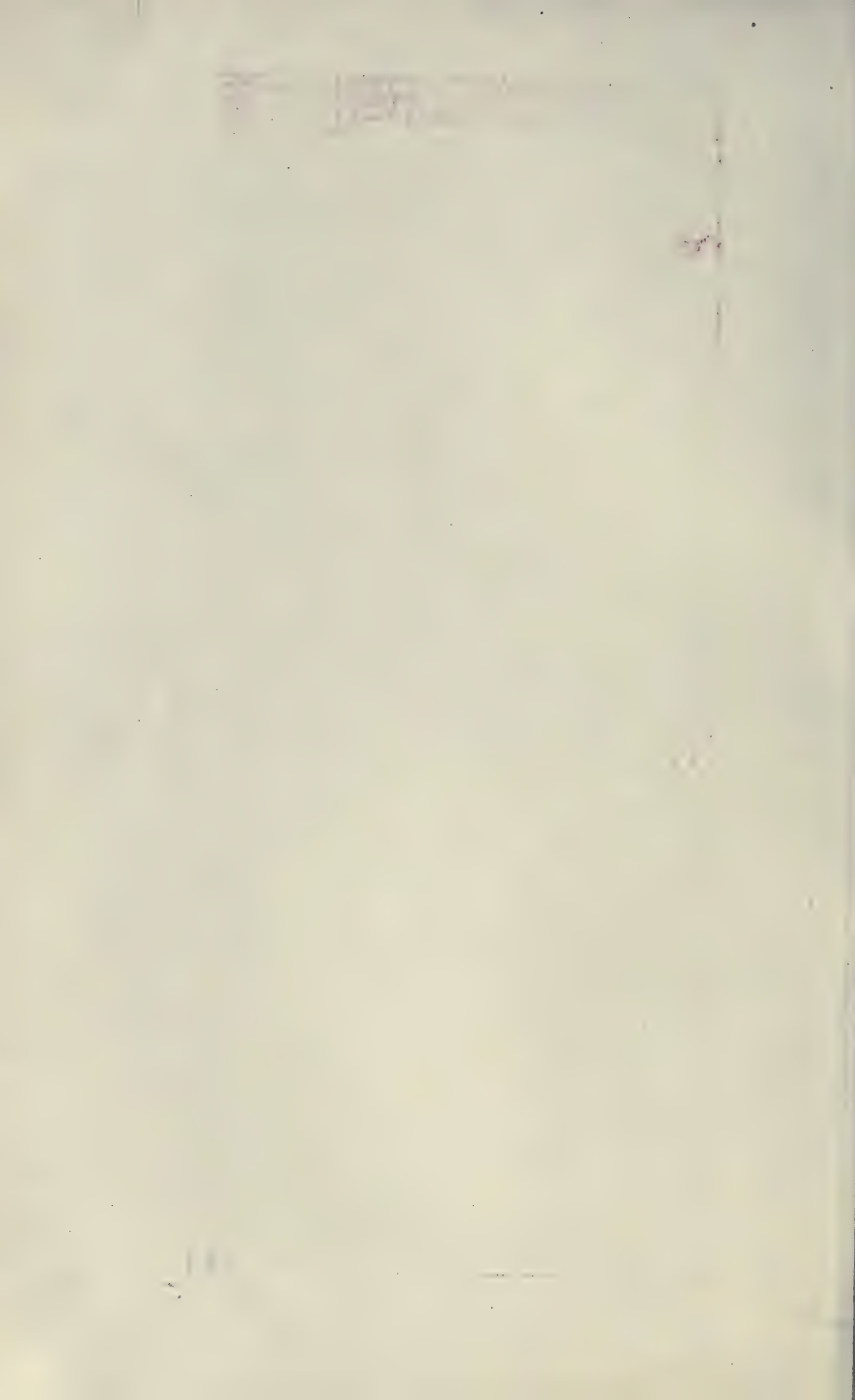
There are three diseases in which it is pretty commonly used, though some restrict it to one only. That one is the lichen planus of Erasmus Wilson, and the others are the lichen ruber acuminatus of Hebra, and lichen scrofulosorum. Lichen acuminatus is regarded by many as identical with pityriasis rubra pilaris (*q.v.*), lichen scrofulosorum is a form of tuberculosis.

Lichen planus is characterised by the development of a series of papules, which commence and usually remain as such. These have peculiarities clearly marking them out from all other varieties of papule. The first of these is their *shape*. Instead of being round, as are most skin lesions, they have usually an *angular* outline, their outlines being determined by the natural fine lines on the skin. Exceptionally, they are round or oval, and have in their centre a minute depression, probably corresponding to a sweat pore. The *colour* of the papules is also peculiar. While it is not evident in every case or rather not always evident, there is usually at some period, and often throughout the case, a *livid lilac* tinge, which is so characteristic that when it has once been pointed out it should always be easily recognised. The papules have yet another peculiarity—their surfaces appear as if *burnished*. When the light strikes them in certain directions their flat surfaces are distinctly shiny. In some cases vesicles develop



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LICHEN PLANUS



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LICHEN PLANUS.

on the top of the papules and lead to confusion in the diagnosis. Although this complication is frequently due to the arsenic with which the patient is being treated, it is not always so. It is, however, very rare. Lastly, as the spots disappear they invariably leave behind them more or less pigmentation.

While the distribution may be almost universal, there are certain regions which are almost always affected in slight cases, and most affected in severe ones. These are the flexor surfaces of the forearms just above the wrists, the inner aspects of the thighs just above the knees, and the back of the neck. When the disease is widespread, papules are found most numerous wherever any compression is exercised, as by the garter or the corset. The papules are not confined to the skin, but sometimes appear as whitish areas on the mucous membrane of the mouth.

SYMPTOMS.—In some cases the patient is pretty smartly ill, and until the eruption is recognised the nature of the illness remains a mystery. It is rare for the temperature to be elevated, and the patient's principal suffering is from itching, which is sometimes so severe as to positively threaten the reason. In many cases the complaint seems altogether out of proportion to the extent of the eruption, and the patient is unjustly supposed to be making too much of the trouble.

When the disease assumes the more chronic form the spots run together to form patches, the nature of which is sometimes not at once evident, owing to the greyish scales which cover them. Almost always, however, there are at the margins of the patch one or two papules in which the distinguishing features of the disease may be recognised. These patches are most common on the legs, and have a certain superficial resemblance to psoriasis (see Plate). There is occasionally a tendency for the papules to form chains along the line of the veins. The patches on the leg are associated with a good deal of secondary thickening, and are sometimes considerably elevated, but true warty development (lichen verrucosus) is exceptional, and probably occurs only in neglected cases.

The papules have a varied duration, some of them disappearing rapidly, and others persisting for months. According to their duration, their site is marked by less or more pigmentation, generally of a rather rich brown colour. This is always

most pronounced on the legs, and persists for many months after all other traces of the disease have passed away.

HISTOLOGY.—When a papule is removed and sections are examined under the microscope the appearances are so regular and consistent that, without knowing anything of the specimen, one has no difficulty in recognising the disease.

The horny layer is thickened and dense. The cells of the rete are to some extent increased in number, and more notably in size, but an alteration in their shape is the most marked change. They are laterally lengthened, *stretched* over the growth beneath.

It is in the corium that the most typical changes occur. Occupying a little lozenge-shaped area, close under the

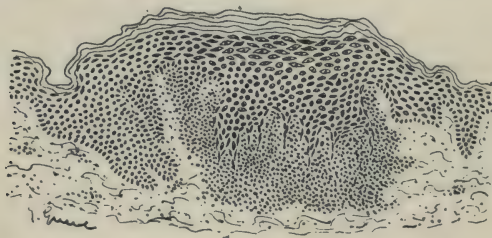


FIG. 51.—Section of a Lichen planus papule: horny layer thickened, epidermis thickened and its cells enlarged and lengthened laterally. Dense growth of connective-tissue cells in the corium, sharply margined beneath. ($\times 75$.)

epithelium, and sharply marked off from the rest of the corium beneath, is a collection of cells (Fig. 51). These cells are of the connective-tissue type, and are similar to those found in the granulomata. When papules from later stages are examined, and more especially in the long-standing, thickened, elevated patches which occur on the leg, further changes are seen, the horny layer being thickened, and projections running downwards from it into the rete. In the corium, lines of new vessels may be found running in among the collection of cells; indeed, a process of organisation is going on. This is to some extent confirmed by clinical observation, for although no ulceration occurs, in chronic cases a condition closely resembling a scar is left when the disease

passes away. It is thus apparent that further investigation confirms the view that the cells are of the granulomatous type. There are, further, clinical facts in support of the disease being more than a catarrhal inflammation of the skin. The disease may persist for years in the original situation, and in acute widespread cases there is often considerable general disturbance of the health, such as is not found in the ordinary cutaneous catarrhs.

The anatomy explains the peculiarities of the spots. The burnish on the surface is due to the stretching of the epidermis from beneath, and is a purely physical phenomenon, not confined to lichen, for to the same physical characters are due the mother-of-pearl edge of early rodent ulcer, and the shining surface in molluscum contagiosum. The colour is due to the thick cellular layer "which lies like a dense opaque medium over the dilated capillaries" (Unna).

ETIOLOGY.—The etiology of the disease is obscure. It is usually placed in Hebra's class of exudations or inflammations, but many consider it to be dependent on nerve influences, and Morris puts it among the "diseases due to nerve disorder." Cases occurring in such persons as railway signalmen or range markers are always quoted as supporting the nervous theory, but one of the worst cases which has been under my care was that of a professional golfer. Brooke says that in almost every case his patients have previously been in sound health, and that he has never seen any marked nervous depression. The anatomical appearances support the view that it is an infective inflammation, and I believe that an organism will yet be found.

DIAGNOSIS.—The diseases with which lichen is most likely to be confused are psoriasis, tubercle, and syphilis. The typical papules have no real resemblance to those of typical psoriasis, for these latter are scaly upon the surface, while those of lichen are shiny; but when the individual lesions have run together to form patches the resemblance to psoriasis is often close, and mistakes may and do occur. The scaling is of a greyer tinge than in psoriasis, and careful search will almost invariably detect, somewhere, the characteristic papules. The examination of the mucous membrane of the mouth should not be forgotten. The lesions of psoriasis from which the scales have been removed

by washing have a superficial resemblance to lichen papules, but the colour generally distinguishes the two.

With tubercle, only the extremely chronic limited patches of the disease can be confused. In them there is almost always a recognisable suggestion of the lilac tinge already referred to, and generally some outlying characteristic papules. The scaling on the surface of a tuberculous lesion is coarser than that of lichen, and careful examination should disclose some of the typical "apple jelly" nodules, although it must be admitted that it is just in those chronic limited patches of tubercle that these are most difficult to recognise.

Two of the eruptions of syphilis somewhat resemble lichen. In one of them, an early secondary eruption, the resemblance is so marked that the term *Lichen syphiliticus* is still frequently applied to it. As a rule, however, the colour is a deeper red, and the outline of the papules is not angular as it is in lichen. Perhaps one of the most useful distinctions is the well-known fact that syphilitic eruptions rarely itch. The itching of an acute attack of lichen planus is maddening. In the late tertiary period, patches analogous to the tuberculous ones just described may appear. As a rule, in such cases there is some ulceration of the specific patch, while lichen never ulcerates. The pigmentation of lichen may be described as a rich, that of syphilis as a dirty brown.

PROGNOSIS.—While some cases get rapidly well, as a rule the disease is prolonged and obstinate. The widespread cases often take fully six months to recover, while localised patches on the leg may remain for years. The longer they persist the deeper is the resulting pigmentation.

TREATMENT (*Internal*).—The favourite remedy is *arsenic*, and many cases do well under it. It must be given in increasing doses until improvement commences, when further increase should be stopped; for arsenic has a tendency to increase the pigmentation which naturally occurs in the disease. If any signs of its poisonous effects appear it should be stopped. It is possible, as in some other diseases, to so lower the condition of the patient that there is an apparent improvement, but the disease reappears when the patient regains his strength. The bullæ which occasionally appear in this disease are by some

attributed to the arsenic so commonly administered, but there are well-authenticated cases where no arsenic had been given. Pringle considers arsenic "the most deleterious drug we have for acute lichen planus." Allan Jamieson and Morris prefer *antimony* to arsenic.

The internal remedy which has proved most efficacious in my hands is that originally recommended by Liveing, namely, *perchloride of mercury*. In some cases the disease disappears under this treatment ($\frac{1}{12}$ of a grain three times a day) with a rapidity which is unapproached by either of the other remedies. So successful was it in the first case in which I used it that I have to congratulate myself on the fact that I was able to confirm the diagnosis by the examination of a papule which I had removed, or else I should have suspected that the case was, after all, syphilis. The recent observation that lichen, like syphilis, yields to "606" is extremely interesting, and surely supports the suggestion that the organisms of the two diseases are similar. But I am not prepared to accept the theory of a direct relationship between the diseases.

(*External*).—External treatment is often of some value. Unna has used carbolic acid and perchloride of mercury with such success that his colleague Leistikow has christened it "lichen ointment." The prescription is:—

R	Unguent. Zinci Benz.	. . . . .	ʒj
	Carbolic Acid		grs. xx
	Hydrarg. Perchlor.	. . . . .	grs. j to ij to x

It may also be applied in collodion:—

R	Carbolic Acid		grs. x
	Hydrarg. Perchlor.	. . . . .	grs. j to v
	Creosote		ʒij
	Collodion		ʒj

There are many other applications. In general it may be said that the preparations which are useful in psoriasis are useful, diluted, for lichen. Tar has seemed to me to be the best remedy. The liquor picis carbonis of the Pharmacopœia may be painted on the spots. The fact that the continued application of tar causes folliculitis (the so-called tar acne)

should be kept in mind, and the effects watched. For the obstinate patches on the leg salicylic acid may be used, either in the form of plaster or ointment. In the chronic localised patches on the legs, such as those shown in one of the Plates, exposure to the X-rays is the most generally successful remedy. Cases which have resisted other treatment for years will sometimes yield to the steady application of the rays. One must, however, be careful not to overdo the treatment.

PARAKERATOSIS VARIEGATA

This is the name originally applied to a rare disease which is considered by many to be not very distantly related to lichen. It occurs in young adults, and commences as a series of papules suggestive both of lichen and psoriasis, which may spread over the entire surface of the body. The papules, however, advance to meet each other in a peculiar reticular fashion, which gives a very characteristic appearance to the skin. Small whitish atrophic or healthy areas are separated by a raised, red, scaly mesh-work, and this gives a peculiar variegated or marbled appearance; hence the name. Crocker suggested as an alternative the term *lichen variegatus*, and Erasmus Wilson called it *lichen planus retiformis*. The retiform marking is so characteristic that it seems desirable it should appear in the name.

The disease is extremely obstinate to treatment, indeed none of the cases described seem to have materially benefited by any of the numerous remedies which have been applied. It is customary to apply those commonly used in lichen and psoriasis.

LOCAL INFECTIVE INFLAMMATIONS OF THE CORIUM

Unna divides these into four groups: (1) sero-fibrinous inflammations; (2) purulent inflammations; (3) inflammations in which there is a tendency to necrosis; (4) inflammations in which the tendency is to growth (the *granulomata*). Many of them are rather of surgical or general interest, and only their dermatological aspects are briefly dealt with here.

SERO-FIBRINOUS INFLAMMATION

ERYSIPELAS

(ἐρυθρός—red; πέλλα—the skin)

This disease is fully described in all the text-books of medicine and surgery. Dermatologically, it is mainly important in connection with diagnosis, for certain other forms of dermatitis pretty closely simulate it. The disease most commonly confused with it is an erythematous dermatitis of the face, resulting often from exposure to the sun or to some other irritant. The important points separating erysipelas from these rashes are as follows. There is almost invariably a rise of temperature and a quickening of the pulse. The patient usually feels ill. On inspection the part has an angrier red colour than is commonly present in dermatitis, the margin is usually abrupt, and irregularly shaped bullæ appear on the surface. When the hand is applied to the part it feels hot, and there is a brawny, firm feeling, different from the less dense swelling usually accompanying dermatitis. Sometimes the red colour is not present. Whether this is due, as in urticaria, to the amount of exudation compressing the vessels is, so far as I know, undecided, but "white erysipelas," as it has been called, certainly does occur.

TREATMENT.—*Ichthyol* is by far the best treatment for erysipelas. It may be applied in an aqueous solution of 20 per cent., or in an ointment 5j to 3j. Either of these should be applied continuously, and usually the good effects are apparent in a few hours. So certain is it in its effects that it is hardly necessary to administer iron, though in the pre-*ichthyol* days it was the custom to prescribe ℞xx doses, three or four times daily, of the liq. ferri perchlor.

PURULENT INFLAMMATION

FURUNCULOSIS

(*Furuncle*—a boil, from "fur," a thief)

"Boils" are but too familiar, and in the older works are honoured with long descriptions of themselves and their

varieties. The boil is caused by the staphylococci, which, gaining an entrance to a hair follicle, multiply there, and, eventually breaking their way through the wall, lead to a deep thickening. In the centre of this is the necrotic "core" in which millions of cocci are present. While most often found in those who are run down, boils are frequently found in persons in full vigour, and are still often looked upon as a matter for congratulation, as evidence of robust health. When occurring in the healthy, some local cause is usually to be found. Boils at the back of the neck are due in some instances to the contamination of the collar of some particularly comfortable old smoking-jacket, while those about the anus are in some cases due to want of absolute cleanliness, or to similar contamination from the clothes. Their occurrence in the course of diabetes or Bright's disease must be borne in mind; but whatever the general predisposing condition, local infection is a *sine qua non*.

TREATMENT.—This must be twofold; local and general. The indications for the former lie on the surface. Probably no other local method is so satisfactory as the application of Unna's *mercury and carbolic plaster*. Boils which appear as if they must inevitably burst slowly melt away under its continuous application, while less advanced ones disappear as if by magic. When rupture is inevitable they should be opened and dressed with boracic lint and protective. The poulticing so dear to the lay heart should be absolutely interdicted; there are few better methods of spreading boils than linseed poulticing. If there are any pustules in the neighbourhood, perhaps in any case, the whole region should be treated with dilute ammoniated mercury ointment.

General treatment consists in the administration of tonics, such as iron and phosphorus. *Yeast*, a very old-established domestic remedy, has the approval of more than one experienced dermatologist, and is probably worth a trial where it is easily procured, the patient drinking every morning a tumblerful of fresh yeast from the surface of the fermenting tun. *Levurine*, prepared from yeast, may be used if no fresh yeast is procurable, and I have had good results from nucleinic acid. In a small proportion of cases the results following the

administration of *sulphide of calcium* are most satisfactory, the boils disappearing very rapidly. It is usually prescribed in pill form, $\frac{1}{6}$ of a grain three or four times a day. According to Ringer, it is much more efficacious when freshly dissolved in water and taken in small doses every hour.

Vaccine therapy is seen almost at its best in the treatment of furunculosis. We have here a disease definitely due to the *staphylococcus aureus*, which yields in the most gratifying way to vaccines made from that organism. Opinions vary as to the frequency of dosage. My general practice is to give injections of 100-200,000,000 at intervals of fourteen days.

NECROSING INFLAMMATIONS

The local infective inflammations which show a tendency to break down are all due to known organisms. Most of them also affect other organs, and are fully described in text-books of medicine or surgery. They include the soft sore, noma, anthrax, glanders, and actinomycosis, in all of which the growth of the organism leads to necrosis and breaking down of the tissues. The first two are not usually regarded in this country as skin diseases.

ANTHRAX

(*ἄνθραξ*—*a coal*)

The malignant pustule is the form of this disease with which the dermatologist commonly has to deal. It is usually acquired in butchering a diseased animal, or in sorting diseased wool and hides. The occupation, therefore, of the patient is a great indication and help to diagnosis. Cases occasionally crop up in the country where a farmer, suspecting the nature of the disease of one of his cattle, acts as his own butcher, from a natural though illegal desire to avoid confirmation of his suspicions, and infects himself in his amateur efforts.

The pustule commences with an itching red spot not unlike the bite of an insect. A vesicle rapidly develops, and very rapidly dries up into a *dark, reddish-black slough*. The tissues

immediately around this become indurated, and a wreath of secondary, smaller vesicles may form around the central slough. These are, however, not always formed, and the term "pustule" is a little apt to distract attention from the hæmorrhagic slough, which is so much more characteristic, and is usually present when the case comes under observation. There is at this stage comparatively little constitutional disturbance; the contest between the organisms and the tissues is a purely local one, and it is only when it has terminated in favour of the bacilli that these obtain access to the blood and give rise to *splenic fever*. The disease has another local method of attack, probably due to a deeper inoculation. In this form the black eschar is absent, and the local change consists in an œdema of the tissues. This is known as anthrax œdema and anthrax erysipelas, to the latter of which it has some resemblance. It is a still more serious form of the disease than malignant pustulæ.

DIAGNOSIS.—Theoretically, one should be able to find the anthrax bacilli in the discharge, but as a matter of fact they are not easily found, and indeed even when the excised lesion is examined microscopically they are not always at once detected, though they are usually readily enough cultivated. The diagnosis must be made in most instances from the history of the case, and the appearance of the characteristic black central slough.

PROGNOSIS.—In some cases the patient's tissues (leucocytes?) are strong enough to destroy the bacilli, and malignant pustule may terminate favourably without any treatment. If the line of defence breaks down and splenic fever develops, the prognosis is very grave.¹

TREATMENT.—Excision used to be regarded as the only justifiable treatment of the malignant pustule. There are, however, many who not only consider excision as useless, but believe the patient has a better chance of recovery without it, and these recommend the application of carbolic poultices or of mercurial ointment. Some inject carbolic acid into the tissues around the lesion. While my personal experience of the disease has not been large, I have when examining excised pustules more than once been struck by the small number of

¹ Nine cases occurred in London in 1909, and only two terminated fatally.

organisms present, and their limitation to the superficial regions. The part excised has always been apparently unnecessarily large, and there is a good deal of testimony favourable to the expectant method of treatment. Everything must be done to support the patient, and to increase his power of destroying the organisms.

GLANDERS

(*Glans—a gland*)

This, too, is a disease which presents itself in two forms, either local or generalised. Like the preceding one, it is connected with employment, and is found almost exclusively in those who have the handling of horses. Still, both may occur accidentally in others, and in neither must too much stress be laid on the occupation.

The commonest form of the disease which comes under the notice of the dermatologist is the single ulcer, which appears usually on the face or hands, and is exceedingly puzzling as to diagnosis. Somewhat resembling a syphilitic ulcer, it develops even more rapidly than that, and is of course unresponsive to anti-syphilitic treatment. Sometimes the disease attacks the skin in a sub-acute form, and is evidenced by a number of pustules and purulent swellings closely resembling those produced by the internal administration of iodide of potassium. The obviously serious condition of the patient, the rise of temperature, and the history of his occupation are all of value in arriving at a correct diagnosis. Here cultivation is of more value in diagnosis, for the disease is not so rapidly fatal as anthrax, and by passing some of the discharge from the ulcer through a guinea-pig cultivations of the *Bacillus mallei* may be procured.

The only local treatment of any use in the first class of case is the radical destruction of the ulcer by the *actual cautery*, no attention being paid to anything save the destruction of the diseased tissues. Mallein may sometimes be used with advantage in the widespread forms.

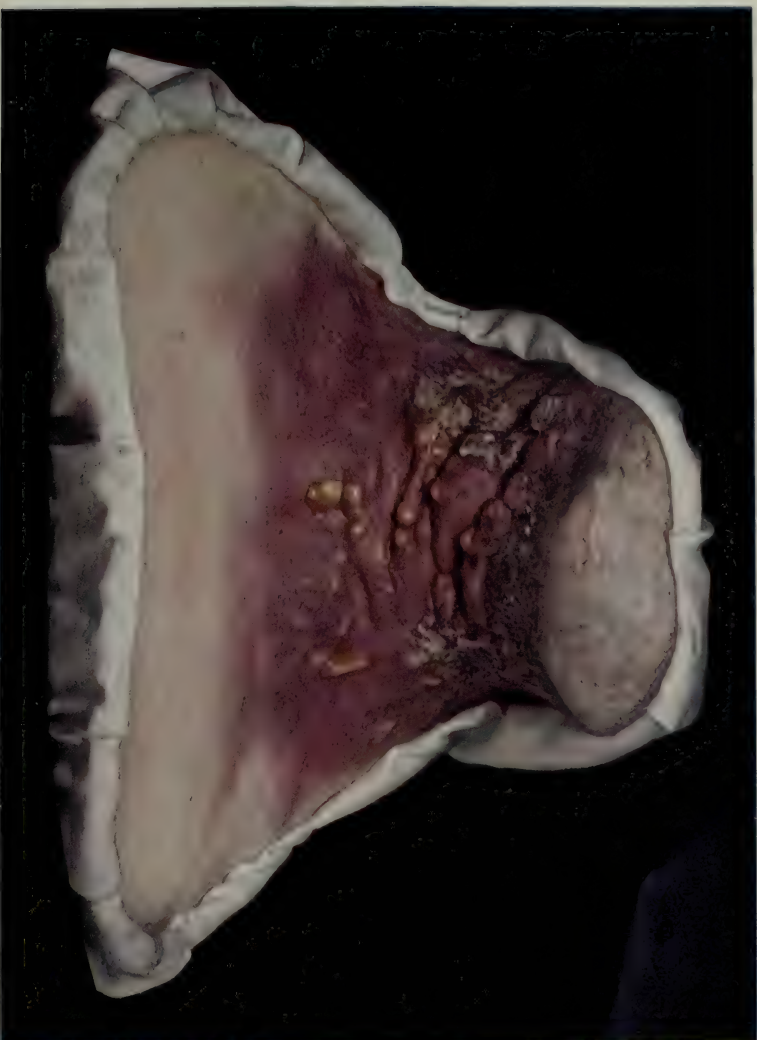
ACTINOMYCOSIS

(ἀκτίς—a ray; μύκης—a fungus)

Pearl or wooden tongue has been long known as a disease of animals, and although a case of the affection in the human subject was recorded so far back as 1845, it is only comparatively recently that its prevalence in the human subject has been generally recognised. While the parasite usually enters by one of the mucous surfaces, the skin is not infrequently the seat of its first attack. The disease is found in those who are connected in any way with farming, or with the handling of hay and straw. The lesions on the skin, which are usually secondary to deeper disease, and are most common on the face and neck, are quite characteristic. The only word to describe the appearance is the vulgar one of "blob." The granulations are like little sticky drops, reddish in colour, emerging from a reddened, thickened, fistulous opening, from which also issues a fluid containing little sulphur-yellow granules. The disease varies in its extent; it may attack downwards, reaching the bones or vital organs, and ultimately terminating fatally, or it may remain local for a considerable period.

DIAGNOSIS.—The little yellowish granules which are present in the discharge consist of masses of the ray fungus. They consist in the centre of a felted mass of filaments, which are modified at the periphery into the characteristic club-shaped structures. The microscope is of more immediate value in this disease than in the two preceding ones, for usually, though not always, some fragments of the fungus may be detected in the discharge.

TREATMENT.—Surgical methods, scraping out the sinuses and the application of carbolic acid or some similar application, are indicated. Most, however, is to be hoped from the internal administration of large doses of *iodide of potassium*. Whether, as in syphilis, the iodide rather removes the products than destroys the cause of the disease is possibly open to discussion, but it certainly promotes the absorption of the swellings and the healing of the sinuses, and it may be that the patient's juices destroy the fungus. Soaks of iodine in the form of Gram's or Lugol's solution may be applied to the part.



ACTINOMYCOSIS

The accompanying illustration, which is from a cast of the chin and neck of a case under my care in 1907, is a typical example of the form in which one meets the disease upon the skin. The patient was a farm servant who was in the constant habit of chewing straws. I suspected the nature of the disease when I first saw him, and we found in the discharge threads of fungus which strengthened our suspicions. Unfortunately the patient was immediately put upon large doses of iodide of potassium, ultimately increased to forty grains three times a day (under which, I am glad to say, he made a complete recovery). But the fungus seems to be peculiarly susceptible to this treatment, and could not be found on later investigation; and in a second case under my care as I write we have had a precisely similar experience. The patient came to hospital during my holiday, and was seen by my colleague, Dr. Gardiner, who demonstrated the fungus without any difficulty to the attending students. The patient was put upon iodide of potassium for a few days, and, in spite of the assistance of the expert bacteriologists whom we have available in Edinburgh, we have never been able to find the fungus again. One may perhaps emphasise the precaution that thorough bacteriological examination should be made before treatment is begun. This patient is now doing well under vaccine treatment.

THE GRANULOMATA

The local infective inflammations of the corium which show a tendency to form growths are rhinoscleroma, yaws, mycosis fungoides, syphilis, tuberculosis, and leprosy. It is true that many of these ultimately break down, but they are distinguished from the preceding class by their having a longer formative stage.

RHINOSCLEROMA

(ῥίς—the nose ; σκληρός—hard)

This is a very rare disease, and consists in a peculiar hardening of the tissues of the nostrils and upper lip. Commencing unobserved on the nasal mucous membrane, it goes gradually

on until the parts have acquired a cartilaginous hardness, and the nostrils are obliterated by the enlargement of their walls. It is due to a specific bacillus somewhat resembling the pneumo bacillus, which can be easily cultivated.

Formerly treatment was directed entirely to palliating the condition, and keeping the nostrils open by tangle tents, etc. More recently attempts have been made to produce an anti-toxin, which has been used in some cases with benefit. Lang injects a 2 per cent. solution of sod. salicyl., and administers the same drug internally. Considerable improvement has been noted under X-rays. No case has as yet been observed in Great Britain.

YAWS, OR FRAMBCESIA

(*Fr. framboise—a raspberry*)

This is a disease of the skin found in certain tropical countries, *e.g.* Ceylon, the West Indies, South America, and Madagascar. It runs a course somewhat like that of syphilis, but in the opinion of those who have practised in those countries, and have consequently had the opportunity of investigating the disease carefully, it is quite distinct from that disease, though both are probably caused by a spirochæte.

MacLeod, who has recently published the results of his very careful histological examination of the lesions from various stages of the disease, says that it is not more difficult to differentiate typical yaws from syphilis histologically than to distinguish between the histological pictures of tuberculosis and syphilis. A spirochæte resembling the *S. pallida* has recently been demonstrated.

There is a prodromal stage, most marked in children, in whom the disease is commonest, with symptoms somewhat resembling those of rheumatic fever. Then appears a local sore (usually extra-genital) and a secondary rash, in which a number of yellowish red lumps (yaws) appear. These enlarge and become crusted. When the crust falls off there is disclosed a papillomatous growth, resembling a raspberry or a cauliflower, from which issues a malodorous, sticky discharge. Papules sometimes appear on the mucous membranes. Tertiary symptoms

only rarely occur, and Kynsey, who has had extensive experience of the disease in Ceylon, says these should be looked on as mere accidental sequelæ.

DIAGNOSIS.—The only disease with which it can be confounded is syphilis, and the following differences are noteworthy: frambœsia occurs most commonly in childhood, and is rare after thirty-five. The eruption is *always the same* and is *always itchy*; it leaves no scar, and never affects anything but the skin and mucous membranes; iritis never occurs, and the disease is never congenital. Syphilis does not protect from yaws, nor yaws from syphilis.

TREATMENT.—Tonics, such as quinine, appear to be the most general favourites. Mercury and iodides are frequently prescribed; in Kynsey's experience they were worse than useless.

MYCOSIS FUNGOIDES

(μύκης—a fungus)

"In presence of a chronic ambiguous pruritic dermatosis, rebellious to ordinary treatment, which assumes the form of a vague erythrodermia, of a psoriasis, of an eczema, of a rebellious urticaria, of a lichenoid prurigo, etc., it is necessary to bear in mind the question of a possible mycosis fungoides" (Besnier).

The term was introduced by Alibert, and remains in use, although the word "mycosis" must not be understood to indicate that any "fungus" is present. It is fortunately a comparatively rare disease.

It commences with an eruption which may be urticarial, erythematous, vesicular, scaly, or eczematous, and it may remain in this form for many months, or even years, before the later and more serious development of tumours commences. These vary in size and shape, and are usually of a deep red colour until the surface takes on a catarrhal action, when yellow crusts appear; then the surface softens, parts of it break down, and fungating ulcers develop. The accompanying illustrations of a case under the care of my friend, the late Mr. Dale James, show these two stages of the malady. Seven months elapsed

between the taking of the first and the second photograph, the latter being taken a week or two before death.

Sometimes the tumours become pedunculated and drop off.



FIG. 52.—Mycosis fungoides (before fungation).

Sometimes they disappear spontaneously. According to Unna, the commonest form of the disease tends to begin above, and spreads downwards in the same way as seborrhœa does; and he appears to regard the moisture which develops on the sur-

face as indicative of a complication with seborrhœa. In a case under my care this view seemed to be borne out, for the true mycotic tumours had here and there among them typical seborrhœic warts. The duration of the disease varies; cases have been known to last as long as fifteen years, but as a rule death results in from three to five.



FIG. 53.—Mycosis fungoides (fungating stage).

The nature of the disease is quite obscure. It has many resemblances to sarcoma, but the internal organs are never affected. The tumours are composed of small cells of the connective-tissue type, and most observers regard the disease as in all probability a granuloma. Organisms have been found by several investigators, but not invariably, and there is not sufficient proof of their connection with the disease. In none of the cases which I have examined could I satisfy

myself that certain micrococci present had any relationship to the disease.

Death usually results from exhaustion, brought about by the softening of and suppuration around the growths.

TREATMENT.—Formerly all that could be done was to keep the parts clean, and so protect the patient from the additional suffering of septic absorption. In the X-rays we have, however, a remedy of almost miraculous virtue. They were first used by Allan Jamieson in 1902, in a very well marked case in which one would have looked for a speedy fatal termination. Her doctor, Dr. Simpson, of Golspie, has given me some very interesting particulars recently. For a long time she remained in comparatively good health. Occasionally a fresh lesion would develop, but disappeared under the rays applied by himself. Ultimately, however, the disease prevailed, and the patient died in 1907. But without doubt the treatment added three years to her life.

The coloured photograph is from a patient more recently under my care, and the comparison between the two cases, the one before and the other since the introduction of the X-ray treatment, is eloquent testimony to its value.

It is said that the tumours sometimes disappear under the application of chrysarobin, and injections of arsenic are credited with the production of some improvement.

Certain forms of leukæmia of the skin in which tumour formation occurs are sometimes confused with this disease. They are much more rapid in their development, changes in the blood are easily observed, and a fatal termination comes about quickly.

SYPHILIS

For a description of the primary lesions and the disease as a whole, special monographs or text-books on surgery must be consulted; here we are simply concerned with its manifestations on the skin, and these are so numerous that they can only be treated with comparative brevity. It is not very easy to lay down definite rules as to the periods in which the different skin eruptions appear, and to say this is a secondary



MYCOSIS FUNGOIDES.
BEFORE AND AFTER X RAY TREATMENT.

eruption, that a tertiary one. So far as possible, however, they will be dealt with according as they appear early or late in the course of the disease.

The earliest rash is the roseola, which appears on the trunk from six to ten weeks after infection. As a rule this is a mere erythematous blush, often only discoverable with difficulty, and most evident immediately after the patient has removed his clothes, or after a bath. Exceptionally, this rash is more developed, and exudation accompanies the erythema, leading to a pretty close imitation of erythema multiforme. Very exceptionally, small bullæ may be developed on the erythematous patches.

The next rash to appear in point of time is the scaly one, which is so often described as syphilitic psoriasis. Syphilis and psoriasis are two distinct diseases, and if the old meaning of the latter term is to be retained the term is utterly incorrect. If, on the other hand, the views put forward, to the effect that seborrhœa and psoriasis are practically one and indivisible, be accepted, then there may be some excuse for the term, though that of psoriasiform syphilide is preferable. This scaly rash is a combination of the early tubercous syphilide and seborrhœa, the two diseases mutually favouring each other's development. The seborrhœic catarrh on the surface induces a hyperæmia, which favours the growth of the syphilitic virus, while that in its turn provides a *locus minoris resistentiæ* for the growth of the seborrhœic organisms. This rash follows the distribution and spread of seborrhœa. Commencing on the head, it spreads on to the forehead, where it forms a "Corona Veneris," and then to the trunk and limbs. In many respects the spots closely resemble those of seborrhœa corporis, but there are one or two important differences which make the differential diagnosis easy. The colour is a much *deeper red* than that of seborrhœa, and when the hyperæmia is dispelled by pressure a brownish yellow tinge remains. A still more marked difference is felt on palpating the spots. The lesions of seborrhœa are slightly raised above the surface, but this increase is perceptibly mainly due to thickening *of* the skin; in the syphilitic lesion the increased resistance is much more marked, and though partly *in* the skin, it is mainly *beneath*

the surface—a feeling of new growth is conveyed to the finger.

All the varieties seen in seborrhœa may be present, the spots may be very dry and covered with silvery white scales, or they may be moist and be surmounted by yellow, greasy crusts; it is exceptional for them to weep. At the contact surfaces, particularly between the buttocks, growth may be very active, and warty, condylomatous growths may appear.

Less frequently at this stage the eruption may be pustular or bullous. The Plate shows the bullous eruption of congenital syphilis, which is often spoken of unfortunately as “Syphilitic pemphigus.” There are very few diseases of the skin which may not be imitated by syphilis. It must therefore never be forgotten that **the skin eruption is not the only lesion**, and the diagnosis of syphilis should never be made from the skin eruption alone. Hardening of the glands, ulceration of the throat, and mucous patches in the mouth should be carefully sought for. The eruptions of this stage of the disease pass away without leaving scars.

The next rash in point of time to appear is rupia, of which Hutchinson very truly says that “although of all others the most easy skin disease to represent in a portrait, you scarcely ever see it in practice.” The limpet-shaped scabs are very characteristic, and the rounded numular scars which they leave almost equally so.

The tertiary period is associated in the student’s mind with the gumma, and he sometimes forgets that there are several other forms in which the disease may appear. Gummata may be cutaneous or subcutaneous, the latter perhaps the more common. A swelling, varying in size, appears on the skin, which is generally slightly discoloured. Usually suspicions of its nature are aroused by a peculiar rounded softening in the centre, which gives to the finger the sensation of feeling the empty mouth of a medicine bottle through a piece of velvet. This breaks down, and we then have the typical gummatous sore. Cutaneous gummata are naturally more superficial, sloughing is more rapid, and the excavations are not so deep. They are most common on the legs, especially about the knee,

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2



BULLOUS CONGENITAL SYPHILIDE.

9/2/6

246²



TERTIARY SYPHILIS.
WITH CHARACTERISTIC SCARS.

though they may occur at any part of the surface. Cutaneous gummata are very frequently multiple, appearing in groups, and in healing there is a degree and form of pigmentation which it is of the greatest value to be familiar with, not only in the diagnosis of other forms of skin eruption, but of any obscure ailment from which the patient may suffer. The pigmentation is considerable in amount; in colour it is a mixture of grey and brown, and the scar, which stands out white against the surrounding pigmentation, has a peculiar "scalloped" outline. (See Plate opposite.)

The late scaly syphilide is most frequently seen on the palm or sole. Usually it is unilateral, and this is a great help in the diagnosis, for the eruption has often little to distinguish it from "eczema." That disease almost invariably attacks both hands, unless the patient's work is such that only one hand is irritated. Occasionally syphilis attacks both palms or both soles.

Sometimes a late scaly eruption somewhat resembling psoriasis is observed. The scales may be quite silvery, and the outlines of the patches just like those of psoriasis. But the fact that the centre is scarred makes the distinction quite easy. There is an admirable plate of this condition in the *Sydenham Society's Atlas*.

Another form of tertiary lesion is the ulcerating crusted syphilide, often a very widespread eruption in which the surface is covered with evil-smelling crusts, beneath which an ulcer is concealed. These ulcers spread serpigiously, and often give rise to very great destruction. It is in this form that the "horse-shoe" or kidney shape is most typically developed. It is most apt to occur in patients who have neglected treatment in the early stages of the disease.

The next variety of tertiary eruption is that which for lack of a better term we may call lupoid syphilis. All that is meant by the use of the term "lupoid" is that the lesions somewhat resemble the apple-jelly nodules of lupus. As a rule they are redder in tinge; syphilitic lesions are more vascular than those of tubercle. In my experience this is one of the latest manifestations of the disease, and its true nature is often overlooked. I have seen it appear as late as twenty-

five years after the original attack, the patient having had no eruptions in the interval.

DIAGNOSIS.—In no disease of the skin is accuracy of diagnosis of such importance as in syphilis, and many a doctor has had bitter cause to regret having diagnosed it when the patient was suffering from some other disease over the contracting of which he had no control. In the lock departments of hospitals it is the local lesions which mainly come under the student's notice, while in practice it is usually from the eruption that the enquiries have to start. History is of little value. Not only is the word of those who have contracted the disease in the usual way generally unreliable, but the disease is by no means infrequently accidentally acquired by the innocent, and so in a doubtful case the most intimate knowledge of the high character of a patient must never influence the observer to exclude syphilis. Some err in the other direction, and are too ready to label as syphilis any skin disease with which they are not familiar (see *Pityriasis rosea*), and thus much family trouble and sometimes considerable pecuniary loss to the doctor results. I tell my students that in the diagnosis of obscure skin cases they should always have syphilis present in their minds, but never get it on the brain. Syphilis should never be diagnosed from the skin eruption only. At the secondary period, hardening of the glands, especially those behind the sterno-mastoid and the epitrochlear, should be sought for, and the throat and mouth should be examined for ulceration and mucous patches. Redness of the fauces goes for nothing; in syphilis there is distinct ulceration—the snail track—on the tonsil or soft palate. Only when these are discovered is it wise to put definite questions as to the contracting of the disease. The characters of the eruption have already been referred to, but it is well to bear in mind that multiformity of the lesions is a very usual feature, and that papules in one place, vesicles in another, and crusts in a third, are more frequent in syphilis than in any other disease. In the later stages of the disease (gummata, ulcerating tuberculous syphilides, etc.) evidence of past disease in the shape of scars may nearly always be found. While scars may of course be found in any situation, they are very commonly

found just below the knee. The "tip" of an old clinician that "scars in the neighbourhood of the knee are always syphilitic" is not far off the truth.

TREATMENT.—There are few diseases where the treatment is in its main lines so simple as this. Whatever the future may have in store, mercury is at present the remedy for syphilis. All the leading syphiligraphers of the world are united on that point, if on few others, the point over which they chiefly differ being the form in which the drug should be administered. There are three main methods, for the fumigation method has been practically abandoned. These three are, administration by the mouth, by subcutaneous injection, and by inunction. To these must be added the inhalation method referred to on page 15. The first is the one which is most favoured in this country, and in most cases it is quite satisfactory. Half a grain of grey powder made into a pill and given three times a day is a convenient form. So is calomel in suitable doses, and perhaps the most popular salt in Edinburgh is the perchloride, $\frac{1}{12}$ of a grain given three times a day in solution. The red iodide has its followers, and indeed any of the salts may be given. Subcutaneous injection is largely used on the Continent. It has the merit of accurate dosage, and the patients are more under control. Many use the perchloride, and inject from $\frac{1}{6}$ to $\frac{1}{4}$ of a grain into the buttocks once in every five, six, or seven days. The pain is not severe, and soon passes away, and, as may well be expected from the nature of the drug introduced, abscesses from organisms are rare. Other forms are sometimes used; grey oil (a mixture of metallic mercury and oil), calomel, and an albuminate of mercury. All have their advantages, and all have their disadvantages. The insoluble preparations are a little uncertain, their conversion into soluble ones and their consequent activity appearing to be beyond our control.

Inunction is the most efficient, though the most unpleasant method. In any case where the symptoms are serious, and it is desirable to get the patient rapidly under the influence of mercury, inunction is the method to be followed. About a drachm of the ointment is rubbed into a different part of the body every night. The usual course is the front of the chest,

sides of the chest, the groins, the upper arms, the thighs, and the legs. On the seventh day the patient is allowed to rest, and bathe. The course usually lasts from three to six weeks. A somewhat more cleanly method of inunction is the use of mercury soap. It is very easily used, attracts no attention, and is particularly suitable for commercial travellers and those who are unable to get the ordinary inunction treatment thoroughly carried out. I have more than once succeeded in dispelling late manifestations by simply directing the patient to wash his hands and feet alternately with mercury soap. The lather is of course to be rubbed in till dry. The Mercolint Bib is the simplest of all methods of treatment, and entails least trouble on the patient. Blaschko, who introduced it, says that it is of less value in recent cases, but such has not been my experience (see p. 16).

In the later stages the iodides have their place, though I fully share Whitla's view that "iodide relieves but mercury cures," and almost invariably prescribe them together. Every now and then one meets with patients who cannot take iodides, or who *say* they cannot take iodides. There are no doubt a few individuals who present such an idiosyncrasy to the drug that they are really unable to take it, but in many instances all the patient means is that at one time he has suffered from iodism. That is no reason why he should suffer again, and it is well to impress upon the complainant this aspect of the case. Various additions, such as carbonate of ammonium, pepsencia, belladonna, arsenic, and potassium bitartrate, may overcome or prevent the unpleasant symptoms, and there are many modern combinations of iodine, one or other of which will probably be found to suit most patients. In many cases large doses are necessary before improvement sets in. Because a doubtful case does not improve on ten grains of iodide three times a day it by no means follows that it is not syphilis. In gummata and in the ulcerative forms of the disease the local application of mercury is useful. Unna's mercurial plaster, or simple ungt. hydrarg., kept continuously applied to the part hastens the cure.¹

¹ As these pages are passing through the press the medical world is excited over the new remedy, "606," a compound of arsenic introduced by

TUBERCULOSIS

Lupus vulgaris is the most common form of tuberculosis of the skin. It presents many clinical varieties, which differ according to various complicating and secondary changes.

It may be well to state here that I do not regard lupus erythematosus as a form of tuberculosis.

The simplest and the most typical form of lupus vulgaris is that where there are found in the skin those lesions which are described as the "*apple-jelly*" or "*barley-sugar*" nodules of Hutchinson. These are yellowish-brown areas about the size of a hemp seed; they may be found discrete, or may run together to form irregular areas. They are evidently *in* the skin, and the epidermis runs unbroken over them. They are too small for the finger to appreciate the fact, but pressure with a probe demonstrates that they are softer than the rest of the surface. Their true colour is best displayed by pressing on them a piece of glass (a microscope slide, or a watch glass), for the pressure dispels any complicating hyperæmia, and no amount of pressure will cause the typical nodule to disappear. This method, which Unna calls the "*diascopic*," is of great value in the diagnosis of a doubtful case.

When examined microscopically, these nodules are found to consist mainly of those cells which Unna calls plasma cells, and which are known in this country as epithelioid. These are aggregated into little round areas, ten or a dozen of which go to make up a clinically visible *apple-jelly* nodule (Fig. 54). Occasionally a giant cell may be observed among them, and very occasionally a tubercle bacillus.

At this stage, which may conveniently be styled lupus vulgaris simplex, the disease may remain in cleanly, healthy

Ehrlich, which has the remarkable property of curing syphilis in one dose. Not having had any opportunity of observing the effects of the remedy, I can only speak at second hand, but it is obvious that the results are very remarkable and, coming from such a source, worthy of every consideration. But I would join with others in expressing the hope that the remedy will be thoroughly tested under critical conditions before it passes into general use, for it is clear that, like all other powerful remedies, it has capacities for evil as well as for good.

persons for an indefinite period, giving rise to no inconvenience except from its appearance, and spreading very slowly or hardly at all (see Plate opposite).

The disease, however, only exceptionally follows this simple type. The most common complication, so common as to be to most the typical form of lupus, is that of catarrh. Just as in catarrhal tuberculosis of the lung the catarrh is due to the addition of other organisms to the original disease, so, in the

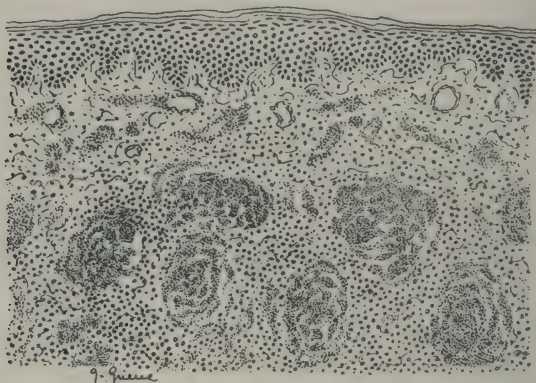


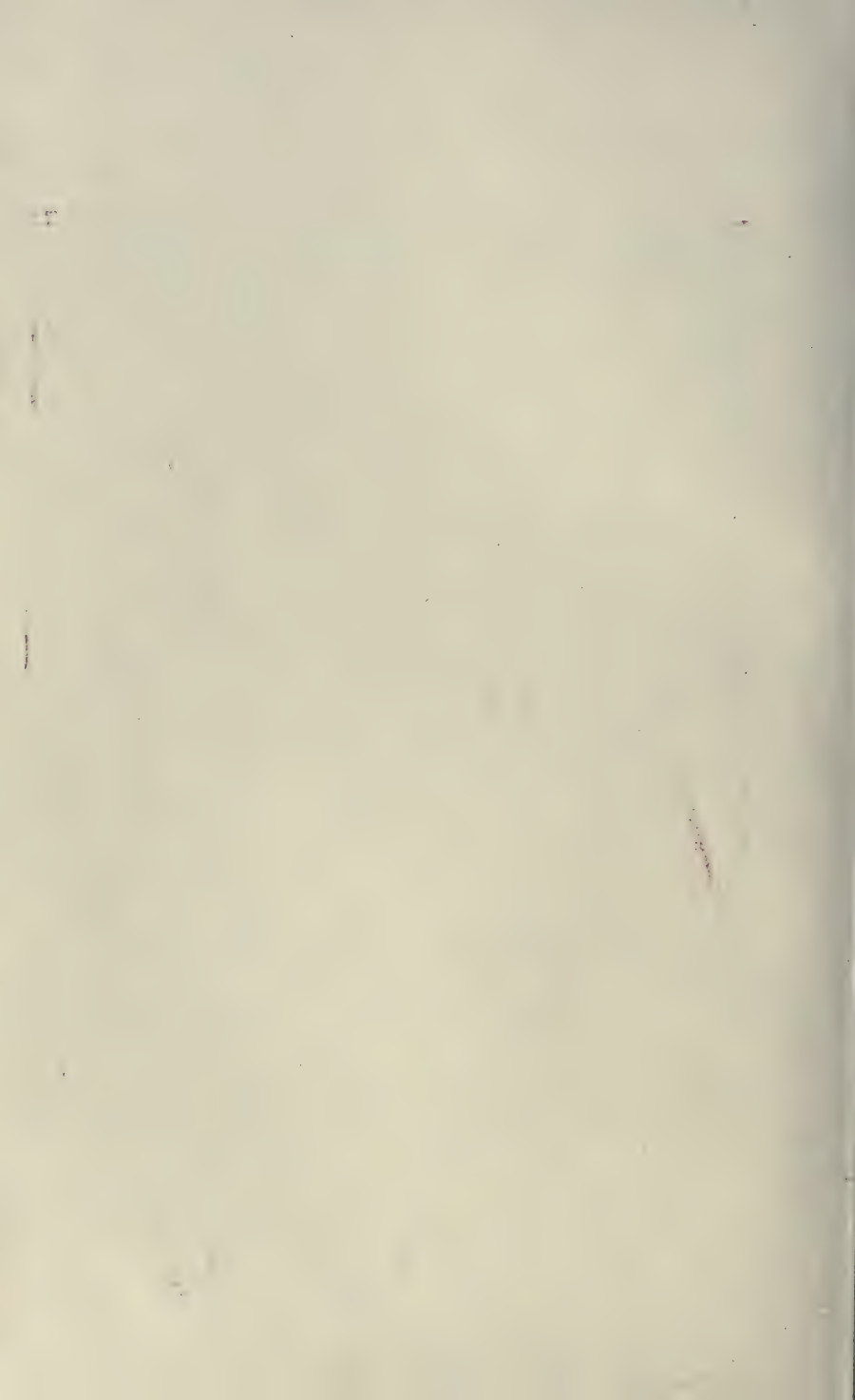
FIG. 54.—Lupus vulgaris simplex. The corium is studded with little collections of tuberculous follicles which make up the apple-jelly nodules. The vessels are dilated, and the tissues between the nodules contain many leucocytes. The epithelium is slightly swollen and the horny layer is irregular. ($\times 75$.)

skin, micrococci are responsible for the change which converts what to the patient is a mere disfigurement into a disagreeable discharging eruption. The brownish-yellow nodules become concealed by dirty yellowish-black crusts, and pus constantly exudes from the apparently raw surface. This stage of the disease has long been known and described as *lupus exulcerans*, but there is no ulceration in the true sense of the word. However ulcer-like the case may appear, careful examination will disclose the fact that the surface is still covered, imperfectly, it is true, with epithelium. The epithelium is swollen, distorted almost beyond recognition, but it is still there. The

1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40-41-42-43-44-45-46-47-48-49-50-51-52-53-54-55-56-57-58-59-60-61-62-63-64-65-66-67-68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83-84-85-86-87-88-89-90-91-92-93-94-95-96-97-98-99-100



LUPUS VULGARIS



process is essentially one of catarrh (Fig. 55). In sections appropriately stained there are found on the surface myriads of cocci, and to these the purulent discharge and crusting are due. The true skin is so packed with leucocytes as to make it difficult in the majority of cases to recognise the tuberculous nature of the disease. But a few weeks' appropriate treatment and the apparent discrepancy is cleared up,—destroy the pyococci and the catarrh disappears, leaving the simple variety of the disease.



FIG. 55.—Catarrhal Lupus. Leucocytes are present in such amount as to completely conceal the tuberculous structure. Traces of epithelium covered the whole surface, and the overlying crust teemed with micrococci: ($\times 50$.)

Another common variety of lupus, which also has its analogue in the lung, is **fibroid** lupus, often erroneously called lupus verrucosus. Fibroid lupus is most frequently seen on the limbs and buttocks. It is exceptional on the face; in the only case I have seen in that situation the diagnosis was so doubtful that I recommended excision by a surgeon, on the suspicion that the disease was malignant. In it there is an excessive production of fibrous tissue, and the tuberculous nodules are few in number. They also show evidence of their chronicity in the presence of (for lupus) an excessive number of giant cells. There is also some evidence of increased activity

of the epithelium, but, as shown in Fig. 56, there is no true warty formation.

True warty lupus, **Lupus verrucosus**, is probably due to the addition to the lupus of the cause, whatever it may be, which produces warts. It occurs especially on the hands and on the buttocks. The same growth of epithelium is seen as in warts, with long processes of connective tissue forming cores for the epidermic cylinders. As a rule the warty growth and the lupus are coextensive and coterminous, but sometimes the warts last longer than the tuberculosis.

Verruca necrogenica, or the **Post-mortem wart**, is that form of tuberculosis of the skin which appears on the hands of

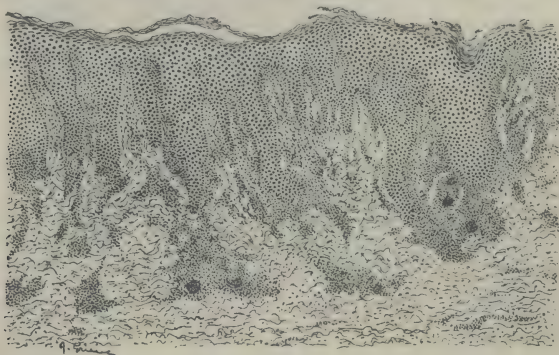


FIG. 56.—Fibroid Lupus. Dense connective tissue. Numerous giant cells. Proliferation of epithelium. ($\times 75$.)

butchers and pathologists, and sometimes of those engaged in nursing phthisical patients. It is the most benign form of tuberculosis, and indicates the vigorous reaction of healthy tissues to repeated inoculation with the bacilli. A great part of the growth is epithelial, as the name suggests, but there is also a good deal of fibrous thickening. It is commonly situated at the side of the nails, or on the knuckles, and may persist for years, undergoing very little alteration, but ultimately disappearing if reinoculation is avoided.

Lupus is most common on the face, and in a great number of instances it begins on the mucous membrane of the nose or the lachrymal canal, and lurks there unsuspected perhaps

for months before it reaches the skin. It is common on the neck, where it is usually secondary to tuberculous adenitis. Probably the next commonest site is the buttocks, and then come the hands, feet, and limbs. No part of the body is, however, exempt. On the scalp primary lupus is exceedingly rare, though the disease may spread to it from neighbouring affected areas. It is suggested that in some instances flies are responsible for the inoculation of the disease, and numerous cases are recorded where an abundant eruption of lupus has followed on an attack of measles.

DIAGNOSIS.—This is usually easy. Almost always at some part of the affected area "apple-jelly" nodules can be detected, and the diagnosis is never absolutely certain until these have been recognised. Not infrequently, however, they are obscured by some of the complicating processes. The catarrhal process very rarely conceals them entirely, for it usually affects the borders, where these nodules are most numerous, less than the centre. But in the warty and in the fibroid forms of the disease they are often exceedingly difficult to recognise. In all cases the use of the diascopic method is to be strongly recommended. It should be remembered that freckles do not disappear under pressure.

In addition to direct observation, a good deal of useful information can be got from the history. It is not likely that a patch of eczema, or, indeed, of any other inflammation of the skin than a tuberculous one, would last for eight or nine years, as these cases frequently do; and suspicions of a tuberculous nature being aroused, careful examination will usually lead to their confirmation. The greatest difficulty in connection with diagnosis is when a chronic ulcer occurs on the face of a patient of middle age. The two diseases which may be confused with tuberculosis under such circumstances are syphilis and rodent ulcer. There are certain differences between each, but these differences must be estimated as a whole and together; too much stress must not be laid on individual ones. Tuberculosis is most apt to commence in youth, tertiary syphilis and rodent ulcer toward middle age. The rate of progress is slow in tuberculosis, rapid in syphilis, and slow again in rodent. There is nothing definitely char-

acteristic in the syphilitic ulcer, but the apple-jelly nodule of lupus and the pearly edge of rodent ulcer are each almost pathognomonic. Rodent ulcer is nearly always single, tubercle in this situation very often so; if carefully sought for, some other sign of syphilis will almost always be found. It is worth noting that patients usually complain of some itching in connection with rodent ulcer; syphilitic lesions very rarely give rise to itching. If dependence is to be placed on the effects of treatment as a means of diagnosis between syphilis and tuberculosis, the trial must be a thorough one, and judgment should not be entered on the results of one bottle of iodide of potassium mixture.

There is one routine examination which should never be omitted. No case of lupus of the face should ever be allowed to go with the mucous membrane of the nose and the gums unexamined. The proportion of cases in which the gum is affected is enormous, and the proportion of cases in which its occurrence is overlooked lamentable. No fewer than 75 per cent. of the patients in the Finsen Institute in Copenhagen are found to have some mucous membrane affected. Lupus of the mucous membrane naturally looks different from the disease in the skin, first, on account of the redness of the surrounding tissue; and second, because of the moist condition in which it is constantly kept. The nodules are usually a little elevated above the surface, and the whole area has an embossed appearance like shagreen leather. Lupus in this situation gives rise to little inconvenience, and patients are frequently unaware of its existence.

PROGNOSIS.—This is by no means easy. Cases which are left to nature usually occur in the lower classes, where the added disadvantages of insufficient care, food, etc., must be taken into account. If a case of simple lupus were left to itself, and the parts kept clean, and if the patient happened to be in good circumstances, the natural course would be for the disease to extend very slowly though steadily. Any disturbance of health would always involve the risk of catarrhal complication, with disfigurement and more rapid extension of the disease. Even severe cases are sometimes immensely improved by a simple change of residence to a more healthy

locality, where the patient, usually a child, has the opportunity of being much in the fresh air. Indeed, it is unnecessary to waste words on this question. The prognosis of lupus is exactly the same as that of tuberculosis generally. When it is catarrhal the progress of the disease will be rapid; when it is fibroid advance is slow.

When treatment is taken into account in the prognosis we are still by no means certain of our ground. In the first place, many other factors, such as the health of the patient, the surroundings, etc., have to be taken into consideration. When that is done we can consider the bearing of treatment directly and alone, and it must be most clearly understood by the patient that if he desires to get completely rid of his disease, which it is quite possible for him to do, he must submit to a prolonged course of treatment. The old surgical treatment of lupus, which consisted in giving a case a "good scrape" and then not seeing it again for six months, did very little real good. Finsen's chief service to medicine was not the introduction of the light treatment, but the lesson of perseverance which he so perseveringly taught. The fibroid variety of the disease has the best prognosis (cases on the limbs often recovering without any treatment), while the catarrhal form has the worst. It must not be forgotten that in a certain number of cases of lupus carcinoma develops. The proportion is stated by some authors to be as high as 2 per cent. This development, of course, alters the character of the prognosis, for lupus cancer is specially malignant. Whether X-ray treatment has anything to do with the complication is a question I have discussed elsewhere. Briefly, my opinion is that while theoretically the treatment may favour the complication, practically the risk may be discounted.

TREATMENT. — Although in public hospitals some phototherapeutic method is now almost everywhere the principal treatment, it must not be forgotten that circumstances prevent many from attending such an institution; and further, that cases recognised early can be cured by much less elaborate methods. I propose, therefore, first to discuss those methods which may be applied by anyone, and to refer less fully to the methods of radiotherapy, for those who use them have usually

Fibroid Lupus.—Here the complication is the excessive growth of fibrous tissue, which must be got rid of before it is possible to attack the lupus directly. Scraping is useless. No surgeon, however athletic, can scrape away tough fibrous tissue. The best method by which it can be dissipated is repeated counter-irritation. Probably blistering fluid is as suitable an application as any other, but carbolic acid, the acid nitrate of mercury, and other caustics, may also be used. The reaction often does more than dissipate the fibrous thickening; a large amount of the disease proper is also removed by the reaction, and what is left is now open to direct treatment.

Warty Lupus.—In this, as already indicated, the warts are to be looked upon rather as an addition than as a complication. They are best removed by various applications, such as acetic or salicylic acid. If they are present over a large surface, the best plan is to level the part with a razor. Or one may take advantage of the fact that warts often disappear on exposure to X-rays.

Lupus vulgaris simplex.—In dealing with the simple form of the disease (whether it has always been simple or has been reduced to this from another form) our aim is the elimination of the tubercle bacillus. The first method of treatment which may be considered is that of excision. Theoretically, excision is the best method; unfortunately, practical application does not coincide with theory. Lang, of Vienna, apparently treats all his cases, however severe or extensive, by this method, but he seems to attain a degree of success which is not even distantly approached by any other operator. I have repeatedly seen cases aggravated by excision, the disease returning in the scars or grafts, often apparently with redoubled activity. The only form of the disease in which excision seems to me justifiable is the fibroid form, and in that the prognosis is so generally good that, unless in special circumstances, it is in my opinion rarely necessary. If excision is to be done, it *must be thorough*. The line must extend well beyond the external evidence of the disease, and the entire thickness of skin must be removed. If the patch is on the face, the fact that the hair follicles often extend very deeply must be borne in mind.

The next method of treatment may be described as the

directly destructive method. In this we apply to the skin drugs which have what is called a selective action, because they act very much more vigorously on the weakened, diseased lupus tissue than on the healthy surroundings. This action is best demonstrated by the use of *arsenious acid*. This is made into a paste:—

R	Acidi Arseniosi	grs. x
	Hydrarg. Bisulph. rubr.	ʒss
	Ung. Rosæ	ʒss

and applied night and morning for three days. It causes very severe pain, and it is often necessary to administer morphine. The whole region swells up, often to an alarming extent, and at the end of the third day the lupus nodules are seen as little black sloughs dotted here and there in an intensely hyperæmic, swollen skin. The sloughs are soon thrown off, and under soothing remedies the swelling subsides. Nicholson recommends a paste of equal parts of arsenious acid, powdered acacia, and orthoform, the last ingredient to annul the pain of the arsenic. The disadvantages of this method are the pain and swelling which it causes, and the unsightly scars which often result, unless very great care is bestowed on the management of the resulting granulating surface.

Salicylic acid has a similar action. In no form is it so efficacious as in Unna's salicylic creosote plaster. Ointments with a similar composition are not nearly so satisfactory, and the plasters should always be preferred. They are made in different strengths, and the strongest which the patient can stand should be selected. The 30-40 formula is a fair average one, and the plaster should be changed night and morning. In a few days the lupus nodules stand out in the form of whitish sloughs, which can be wiped away with cotton-wool. Now comes up the question of what is to be the further treatment. Many at this stage apply soothing ointments, as in the arsenical method, but if the patient has the fortitude to persevere in the use of the plaster until healing takes place under it, the results are much more thorough, lasting, and satisfactory. Often, however, the pain is so great that he refuses to continue, even with a weaker plaster, and some other application must be used.

Nothing is gained by promoting too rapid healing of the ulcers of the skin. Indeed, the longer the part is kept open and discharging, the longer does the benefit seem to last. Dry iodoform or a pretty strong iodoform ointment may be rubbed into the part; probably the iodoform destroys some of the bacilli which still persist. By several courses of this plaster the nodules may be so reduced in number as to be open to individual treatment.

They may similarly be reduced in number by another less painful method, namely, the very thorough application of *oleate of mercury*. The formula recommended by Allan Jamieson is:—

R	Ung. Hydrarg. Oleat. (5 per cent.)	3j
	Ichthyol	℥ ^{ss}
	Acidi Salicyl.	grs. xx

This must be thoroughly rubbed into the part for at least twenty minutes every night, and ten minutes every morning.

When by one or other of these means the nodules have been reduced to a manageable number, methods such as the thermo-cautery are applicable. The ordinary Pacquelin point is too broad to be of any benefit at this stage. The point must be so fine as to enable one to pierce the individual nodules, and the best instrument for this purpose is Unna's *microbrenner* in which a copper point is fused on to the end of the platinum. With this any visible nodule is pierced and immediately destroyed. The galvano-cautery is more useful, mainly, I believe, because the burn is followed by a greater amount of reaction than that of the thermo-cautery, but it is of course not always available.

Another method consists in boring out the nodules with a dentist's burr dipped in pure carbolic acid, and a commonly used one is the puncture of each nodule by a wooden match sharpened and dipped in some caustic, such as the acid nitrate of mercury. The simplicity of the method is a strong recommendation. The operation must be repeated and repeated until every single nodule has disappeared, and only then should the patient be released from observation, with orders to report himself at the first sign of recurrence. The fact that this preparation loses its strength when kept must be borne in mind, and

the fresh preparation should be used with great caution, for it often produces a serious amount of destruction.

The disease may also be attacked indirectly. Probably the two methods, the direct and indirect, are always more or less combined, though usually one predominates over the other. The indirect method aims at setting up such a reactionary hyperæmia in the skin that the tuberculous material is destroyed indirectly.

When the disease affects the limbs the congestive method of Bier may be tried. This consists in applying a ligature so as to produce prolonged congestion of the part, and it is sometimes as useful in lupus as it is in tuberculosis of the joints.

More commonly the reaction is produced by the application of some irritant. I look upon the action of *carbolic acid* when painted on the surface as almost entirely indirect. The slough produced by its destructive action is so superficial that it notoriously leaves hardly any scar, and therefore its chance of penetrating down to the deeper nodules is very small indeed. It sets up, however, a considerable reaction, and under its application the nodules grow less in number and size. The *acid nitrate of mercury* may be used in the same way. Kaposi used a solid stick of nitrate of silver, ploughing furrows in every direction through the disease; but this method is only available in the catarrhal form, in which other means of treatment are preferable.

The *Liquor antimonii chloridi* is another valuable application. It does not produce such severe immediate results, but after it has been painted on daily for a few days the part generally becomes so tender that it must be intermitted for a time. I do not know any better application to intrust to the hands of a patient of only ordinary common sense than the liquor antimonii chloridi, and it has the further advantage that it may be applied to the fibroid form, and thus remove both the complication and the disease at once. Occasionally one hears complaints of severe irritation set up by this application, probably due to some free hydrochloric acid.

Pyrogallol is another useful remedy. It is best used in the form of a 10 per cent. ointment, which should be continuously

applied. It sets up a considerable reaction, but as the effects of that are beneficial it should not be stopped too soon. Dreuw freezes the part with chloride of ethyl, and then scrubs it vigorously with crude hydrochloric acid. In spite of the apparent brutality of the method, the results are good, and the scar is often very satisfactory.

In the selection of any of these methods one must be guided by a variety of considerations. The cosmetic effect is one of the most important. If the disease is on the face of a girl, one is bound to be more considerate of the resulting appearances than in the case of a male. In a working man vigorous scraping with the sharp spoon may be used. This often results in somewhat unsightly hypertrophic scars, but the rapid removal of the disease is in such cases of most importance. In the case of a girl the spoon should only be used lightly, and should be directed to the removal of the diseased products, rather than to the removal of the disease itself. Arsenious acid, too, though thorough, is often followed by unsightly scars, and should not be used when appearances have to be considered. The applications which give the best cosmetic results are salicylic acid, liquor antimonii chloridi, and pyrogallic acid, probably in the order named. If the disease is very extensive, of course, the possibility of the absorption of any drug must be considered, as must the painful effects which they each produce. In such a case probably antimony is as good as any other treatment, different parts being painted in succession. In children the element of pain must be taken into account. It is obviously absurd to expect a child to endure the constant boring pain of salicylic acid and of some of the other suggested remedies, and I believe, speaking generally, that in children the best application is carbolic acid. The pain is severe for the moment, but rapidly vanishes, and even though it may not be the most suitable application to the form of the disease, the fact that a patient is behind that must, as Morris sagely remarks, never be forgotten.

Lupus of the mucous membranes is best treated by the application of strong *lactic acid*, the part being painted daily, or less frequently if the pain experienced is very severe. Improvement is usually obvious and rapid.

PHOTO- AND RADIO-THERAPY.—In the treatment of extensive cases of lupus there is no doubt that these methods have proved their merits. Patients whose cases were practically hopeless may now pretty confidently be promised a cure, provided they have the necessary time to devote to the treatment.

I am most willing to admit all the merits of Finsen's method—the beauty of the scars, the practical absence of any risk in the treatment, indeed everything that may be claimed for it. I believe it is the duty of every large hospital to install it in some form for the treatment of special cases; but I agree with Macintyre that the X-rays in experienced hands can do everything that the Finsen method can do, and a great many things that it cannot. I therefore unhesitatingly recommend that if only one apparatus is to be installed, it should be the X-rays. For this reason I think it unnecessary to devote much space to the Finsen method. It has been described *ad nauseam* in the monthly magazines, and those who have the opportunity of working with it have other sources of information. The essence of it is the concentration of the light-rays on a small area of skin. The exposure usually required is about one hour. Next day a small blister appears on the part, and this is dressed with some healing ointment. The treatment occupies a very long time, and is exceedingly expensive. Further, it is inapplicable to the mucous membranes, which are affected in more than half the cases. But that the results achieved in suitable cases are admirable no one can possibly deny, and persons affected with lupus of the skin only, to whom time and money are no object, will get better results from the Finsen than from any other method.

But for general use there is no question that the X-ray method is the more convenient. In the first place, the apparatus is not nearly so expensive; and secondly, its uses are not confined to the treatment of one disease. The rays reach parts inaccessible to the Finsen apparatus, and the treatment is much less irksome both to the patient and the nurse.

On page 32 I have referred to the methods of applying the rays. Where the patch of lupus is small and defined I believe

it is quite a good practice to aim at the production of a smart burn. The lupus tissue is more easily destroyed than the healthy surroundings. Two or three exposures of twenty minutes' duration are sometimes all the treatment that is required. The resulting slough may take long to heal, but it requires nothing but simple applications, and does not interfere with the patient's work. If the disease is extensive, no such severe measures should be risked; the case should be kept just below the level of reaction. Some cases react much more rapidly than others, so that it is impossible to specify the number of exposures. Cases in which there has been severe reaction are more liable to develop those unsightly teleangiectases which sometimes unfortunately occur in spite of all precautions, and often require treatment by electrolysis.

Both these new methods are followed by extremely satisfactory scars, infinitely superior to those produced by any other method of treatment. Their use does not prevent the simultaneous application of other remedies, such as pure carbolic acid, which we frequently use in the Royal Infirmary, and when the nodules are greatly reduced in number they may be individually destroyed more easily and more rapidly by some of the simpler methods already referred to.

It will, indeed, be matter for regret if the perfectly just criticism of the reckless abuse of electro-therapeutic measures should prejudice the adoption of such valuable methods of treatment. There are many cases of lupus which are better treated by salicylic plaster than by phototherapy, and only harm can result from the wholesale use of one method only by those who have no experience in the effects of others.

RADIUM.—In the treatment of small patches on the skin, and more particularly of lupus of the palate, I can speak very highly of this agent. Specimens vary so much in their radio-activity that it is impossible to lay down any general directions as to the length of exposure. One must proceed with the same caution as when using the X-rays, for the reaction is often long delayed, and may be very severe.

CARBON DIOXIDE.—Opinions differ a good deal as to the merits of carbon dioxide snow in lupus vulgaris. Some write

enthusiastically of its effects, while others find it useless. Personally I feel inclined to agree with both parties. There are some cases where it is very useful, and others where it does not seem to be of much value, but in all the method of application is probably the determining factor. In using CO_2 in more superficial conditions the applications are purposely short, so as to avoid leaving anything in the way of a scar, or if scar there must be, in taking pains to make it as little obtrusive as possible. Now in lupus scars are inevitable; the disease is deep, and if this method is to be of any use the freezing must go deep, and the application must therefore be prolonged. In treating individual nodules, then, the pencil should be hard, should be pointed, the application not less than one minute, and the pressure should be considerable. Although a scar is left it is at least as good a one as would be left by any other method.

INTERNAL TREATMENT.—There is no specific for lupus, any more than for tuberculosis in general. The only medicine which it is usually advisable to prescribe is cod-liver oil, which by improving the general condition of the patient enables him more successfully to combat the ravages of the bacillus. Thyroid has already been alluded to. It certainly dissipates the catarrhal products, but has little further influence. Creosote, arsenic, chloride of calcium, and other drugs which have been recommended at one time or another have, so far as I can judge, not the slightest influence on the disease. I have, I think, seen as much benefit from the administration of *urea* (grs. x thrice daily) as from any other internal remedy, but it does not suit all cases.

TUBERCULIN.—For the last few years, unless there has been some reason to the contrary, injections of tuberculin have been administered to most of my lupus cases. In one or two indoor cases I used old tuberculin, and I believe that in some instances it has advantages over the less violent newer preparations. But it is dangerous; the symptoms produced are sometimes very alarming, and I think its use should be confined to experts. But in T.R. and the other modern vaccines we have remedies perfectly safe when given in moderate doses, and although it is not easy in a chronic disease like lupus to

appraise their exact value, I feel convinced that my cases have, generally speaking, done better since it became an almost routine treatment for them to receive $\frac{1}{15000}$ th to $\frac{1}{10000}$ th of a milligram of T.R. once in four weeks.

There is, however, another use of tuberculin well worthy of attention. A year or two ago Dr. Cranston Low, at my request, tested a large series of patients in my wards by the von Pirquet method. The results were published in the *Edinburgh Medical Journal*, August 1909, and were confirmatory of the general experience of the test. But during its progress I asked him to inoculate some cases, not on healthy skin, but directly on to the surface of the lupus. From this beginning we extended the experiments and devised other methods of application. We found that a 5 per cent. ointment of old tuberculin in vaseline, well rubbed in to patches of lupus, produced remarkable results. The patch swelled up, just as it would do if tuberculin had been injected, but the reaction was confined to the patch to which the application was made. There was no rise of temperature, and no reaction of any other patches which might be present on the patient. After three days of application the patient began to complain of pain, and the diseased surface looked as if it had been very efficiently treated by salicylic creosote plaster; the nodules were punched out and the skin around violently inflamed. Under suitable treatment this settled down and a considerable, in some cases a very remarkable improvement was found to have taken place. The method is particularly useful in lupus in the neighbourhood of joints, where contraction of the fibrous tissue is restricting movement. In such cases the amount of freedom given is very gratifying to the patient. I had been making use of this as a therapeutic measure some months before it occurred to me that it had another aspect, namely, that it might be of great service in the diagnosis of doubtful cases. Everyone is familiar with cases where the history is vague and it is not easy to decide between lupus and syphilis. In such cases local application of tuberculin goes far, much further than a Pirquet reaction, to clear up the difficulty, for this reaction, so far as my observations go, is only produced in tuberculous cases.

Lupus Carcinoma.—Fig. 57 illustrates this occasional and

most serious complication of lupus. The complication is no new discovery, though it must be admitted that it now occurs much more frequently than it formerly did, and that to some extent the X-ray treatment must be held responsible. Hebra, from his vast experience, recorded four cases; I can already confess to nearly four times that number. I do not, however, blame the X-rays. The carcinoma which develops in lupus is



FIG. 57.—Lupus carcinoma.

not, generally speaking, what we now recognise as X-ray cancer; indeed, the appearances of lupus carcinoma are practically identical in all cases, however they have been treated. The explanation is, in my opinion, that the X-rays compress into a few months the series of events which would otherwise occupy years, and patients who would formerly have died now live to develop carcinoma. The complication is a very grave one, and until I adopted the method of treatment which I now follow

all my cases died. These tragedies led me to reconsider my methods, and since I have treated all cases by erasion and the application of caustics, I am happy to record that I have not lost a single case.

Lupus carcinoma is superficial; it is marked off from the deeper tissue by a dense layer of fibrous tissue, and it does not tend to metastatise. The patient should be anæsthetised and the growth vigorously scraped away with a sharp spoon. The hæmorrhage should be *stopped*, not simply checked—I often use adrenalin—and the raw surface should be thoroughly scrubbed with fused chromic acid. Sometimes one operation is enough; often the disease crops up again at an edge. This, recognised at once, may be treated by freezing with ethyl chloride and scraping as before, and by close observation and persistent treatment this dread complication can be successfully dealt with.

There are one or two forms of tuberculosis of the skin not included under “Lupus.”

Scrofuloderma¹ is the term used to describe those cases of tuberculosis of the skin where the infection proceeds from a tuberculous focus beneath. Thus it is most common over broken-down tuberculous glands, and in the neighbourhood of fistulæ from tuberculous bones. The appearances are familiar enough. The reddened skin, often with a bluish tinge, the thin ragged edges, the comparatively scanty discharge, and the tendency to fibroid thickening in the neighbourhood, coupled with the chronic course of the disease, make up a picture which is easily enough recognised. The infection of the skin is, however, usually of secondary importance. The underlying disease is the essential element, and on its cure depends the progress of the skin malady. Sometimes the infection develops into true lupus, which may persist after the underlying disease has disappeared, but as a rule the cure of the one is associated with the cure of the other.

TREATMENT.—This really belongs to the surgeon. The case should be taken in hand by him long before there is any infection of the skin, and with the improved modern methods

¹ From *scrofa*—a sow; and *δέρμα*—the skin. Scrofulous glands on the neck were supposed to make the neck thick, like a pig's.

of dealing with tuberculous glands the disfiguring scrofuloderma of the neck are gradually becoming less and less frequent. When the focus beneath is comparatively small a thorough scraping will in many cases successfully eradicate the disease. Scraping in scrofuloderma is followed by a success unknown in the treatment of lupus. But it is well to recall once more what has already been said, that these cases are in the province of the surgeon, and if the medical attendant is not prepared to take them *thoroughly* in hand and treat them radically he ought to hand them over to someone who is. Dermatology has suffered somewhat in repute from the tendency of some of its exponents to trifle with some of its serious diseases.

Erythema induratum scrofulosorum, or **Bazin's disease**, is an affection which occurs most frequently in girls and young women whose occupation involves a great deal of standing. It attacks the legs only, usually the lower part of the calf, posteriorly. One or more nodules develop below the skin, which takes on a livid bluish colour. Each nodule increases in size, and ultimately its centre breaks down; a slough separates, and the clinical resemblance to a syphilitic gumma becomes very close. An erroneous diagnosis is made. The patient is put to bed. Large doses of iodide of potassium are administered, and the patient has the advantage of rest and hospital diet. When recovery takes place the credit is attributed to the accuracy of the diagnosis, and the suitability of the treatment prescribed; nevertheless the patients do equally well if the iodide of potassium is omitted.

ETIOLOGY.—Some observers are sceptical of the tuberculous nature of this malady, but bacilli have more than once been found; inoculation experiments have several times been successful; von Pirquet's reaction is positive; the architecture of the growths is that of tuberculosis, and the positive evidence far outweighs the negative. Through the kindness of Dr. J. M. H. Macleod I am enabled to give an illustration of a section from an excised nodule (Fig. 58).

According to Whitfield two conditions are confused under this name, one a tuberculosis, and the other a condition of vascular origin. This latter form occurs, he says, in later life,

and is associated with phlebitis and some endothelial proliferation. This second group of cases is very much more amenable to treatment, and a week's rest is often sufficient to clear up all the lesions.

The illustration (Fig. 59) gives a good idea of the appearance of the lesions. It is from the case of a little girl of eleven. The discipline of her school entailed long standing, which no doubt determined the outbreak of the disease

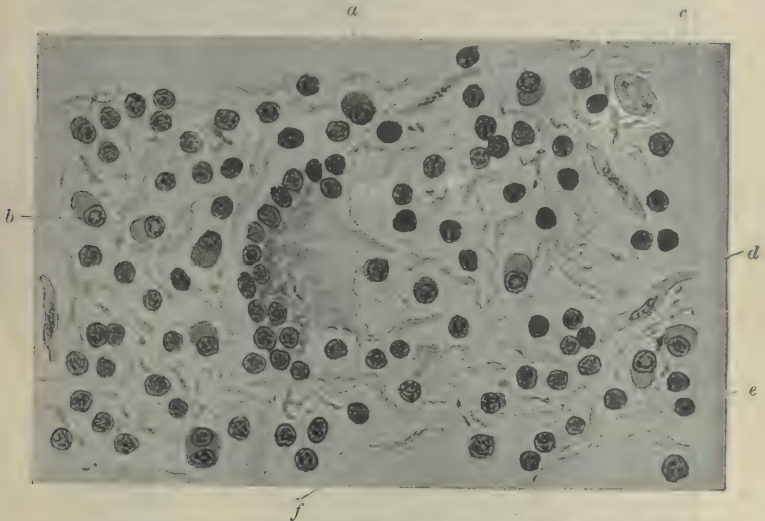


FIG. 58.—Scrofulous Gumma. Shows two tubercle bacilli in an imperfect giant cell (*a*); plasma cell (*b*); daughter plasma cell (*c*); connective-tissue cells (*d*, *e*); oedematous stroma (*f*). ($\times 1000$.) By permission of Dr. J. M. H. Macleod.

DIAGNOSIS.—The seat of the disease, the age of the patient, the history of prolonged standing, and the peculiar livid blue colour of the early lesions make the diagnosis comparatively easy. The only condition with which it can be confused is the syphilitic gumma, and tertiary symptoms in young girls are at least very exceptional. Erythema nodosum, which is also common in young girls, develops much more rapidly; the lesions are both painful and tender, they are generally more numerous, they never break down, and are situated on the front

of the leg, whereas those of erythema induratum almost always occur on the back and sides.

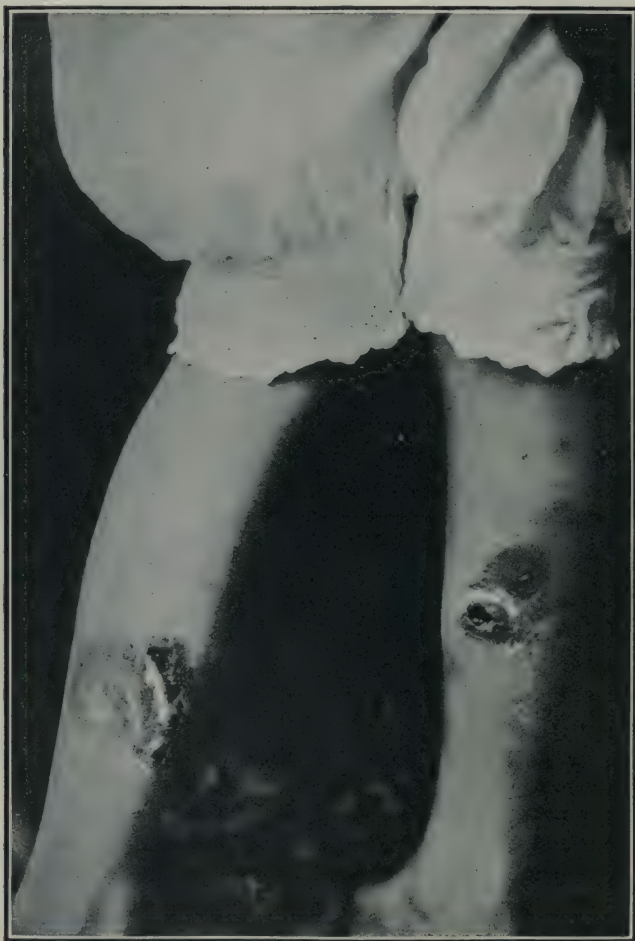


FIG. 59.—Bazin's Disease.

PROGNOSIS.—This is favourable; rest, etc., as described under treatment, almost always resulting in comparatively

rapid recovery, though relapses are common unless the general condition of the patient is improved.

TREATMENT consists in rest in bed, elevation of the limb, generous diet, and the administration of cod-liver oil. The healing of the ulcers is often promoted by strapping of the part. During the past few years I have treated several cases of this disease with excellent results by the X-rays. In one instance the patient continued her work as a message girl.

Lichen scrofulosorum.—This is an eruption which appears on the trunk of children who show or will show evidence of some form of tuberculosis. Most commonly it occurs in those who have either bone or lung disease. In using the expression "will show," one, of course, must bear in mind that the recognition of the skin disease directs attention to the possibility, and leads to the sometimes successful treatment of a tuberculosis which may not be otherwise recognisable. In this respect a knowledge of the disease is important, as it may be the first warning of the presence of tuberculosis.

The eruption is usually on the trunk, although in exceptional cases it may be spread to the limbs and face. The forms it assumes vary. Some of the papules very closely resemble those of lichen in their shape, and have the burnished surfaces associated with that disease. But, as explained under lichen, this is merely due to mechanical causes, and the papules have not the lilac colour of that disease. Others of them are pustular, while still others are covered with a tiny crust. Their distribution is irregular, but they show a tendency to group themselves in circles and segments of circles. This is merely due to the accidental situation of a number of pustules in the hair follicles, whose natural arrangement they naturally follow. The lesions are, however, by no means restricted to the follicles, and for this reason the term of *Folliculitis scrofulosorum*, suggested by Unna, is probably no great improvement on the one which at present is in use. Recently we have had reason to suspect that the tuberculin treatment of lupus favoured the development of this eruption.

DIAGNOSIS.—The occurrence in children, the unusual nature of the rash, in which papules and pustules are arranged in circles and segments of these, and the existence as a rule

of some other evidence of tuberculosis, usually make this easy.

TREATMENT.—No treatment is so successful as that originally introduced by Hebra, which consists in the internal administration and the external application of cod-liver oil.

BLASTOMYCOSIS

(βλαστός—a sprout; μύκης—a fungus)

In the first edition of this book I referred to what I then regarded as a rare form of tuberculosis, a papillomatous variety, of which two or three instances had come under my notice. In the last few years similar cases have been observed, especially in America, and investigation has resulted in the establishment of blastomycosis as a well-recognised disease.

The disease is a chronic inflammation presenting certain resemblances to tuberculosis and syphilis, with which it had hitherto been confused. The affected part is covered with a number of little papillomatous, knob-like elevations, from between which exudes a certain amount of pus (Figs. 60 and 61). This area is surrounded by an inflammatory halo which gradually fades away into the healthy skin, and was described by Hyde as a bluish red, sloping border, or more graphically as a glaxis. If this is closely examined with a lens numerous pin-point abscesses may be noticed, dotted here and there over the surface. Quite a number of cases have now been recorded, and from the accounts of these we learn that the lesions were usually multiple, and that a remarkable proportion of the patients have been concerned with the handling of straw or grain. In only three of the cases was there any history of tuberculosis, and in none of them was there any history of syphilis.

The nature of the disease has been investigated, especially by Gilchrist, Hektoen, Ricketts, and others, who have successfully cultivated in considerably over half the cases a yeast fungus, which when inoculated into animals showed pronounced pathogenic effects. As a rule the exposed parts were affected, the face being involved in nearly half the cases, a striking contrast to the warty form of tuberculosis.

PROGNOSIS.—This is not altogether favourable. In two instances death has occurred, and in others amputation has



FIGS. 60 and 61.—Two cases of Blastomycosis.

been necessary, while in the majority of the rest only improvement is recorded.

DIAGNOSIS.—From syphilitic ulcerations the diagnosis is not very difficult. The character of the lesions, the absence of any other evidence of the disease, and the more deliberate progress serve to separate it from that malady.

From tuberculosis, which it somewhat resembles, it is best distinguished by the presence of the sloping border already alluded to. In tuberculosis the disease is usually most active at the margin. In blastomycosis the greatest pathological changes are in the centre, and it is much more frequently multiple than is the chronic variety of tuberculosis. The effect produced by the local application of tuberculin ointment would clear up the diagnosis of any doubtful case.

TREATMENT.—In most cases surgical interference similar to that used in tuberculosis is indicated. The parts may be scraped, or be treated by salicylic acid or other suitable caustics. Most benefit, however, is derived from the administration of enormous doses of *iodide of potassium*, a fact which has no doubt added to the confusion of certain cases with syphilis. There is, however, this distinction, that while the syphilitic lesions clear up entirely under that remedy, those of this malady, though they greatly improve, do not completely disappear.

SPOROTRICHOSIS

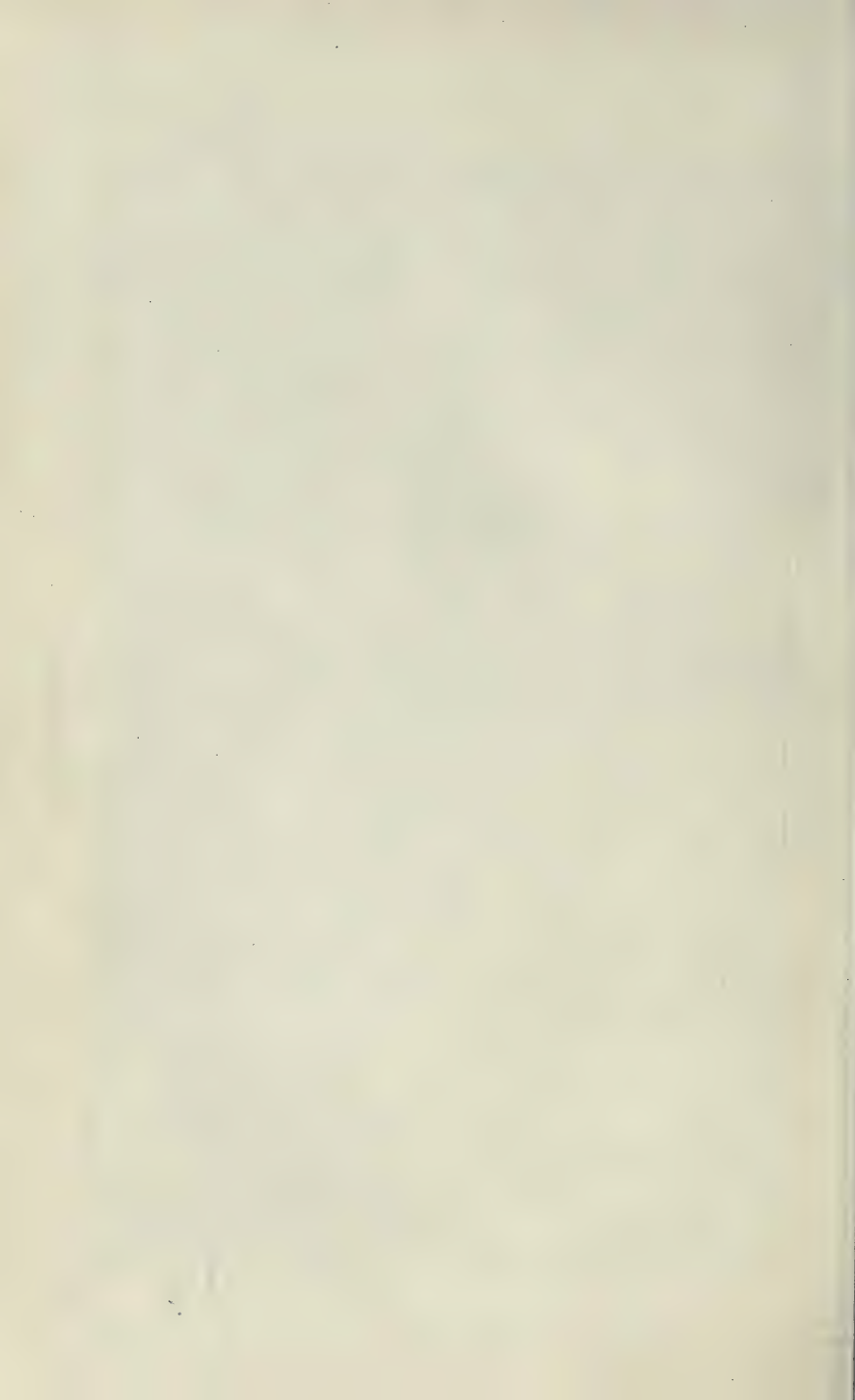
This is another of the chronic infective inflammations of the skin whose origin has been traced to a fungus. Clinically it has resemblances both to tubercle and syphilis, and as one of these diseases cases have in the past no doubt often been diagnosed. But just as in the case of blastomycosis the resemblance was not complete, and one regretfully diagnosed them as the one because he was sure they were not the other.

The disease was first described by Schenk in 1898, and in the last five years numerous cases have been recorded. The accompanying photograph is of the only case I have recognised, and it is, I believe, the first recorded in this country.

The disease usually develops on some trifling injury—in my case from a bruise with a piece of limestone—and this becomes infected with the fungus, the *Sporotrichium Schenkii*, which pursues a saprophytic existence in caterpillars, flies, and



SPOROTRICHOSIS.



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LUPUS ERYTHEMATOSUS.

vegetables. Animals, especially the rat, are easily inoculated. The infected wound refuses to heal under simple dressings, and presently subcutaneous swellings develop along the lymphatic lines. These soon break down, after the manner of a gumma, and so the process goes on until its true nature is recognised. The fungus is not easy to demonstrate in smears from the discharge, but is easily cultivated on potato or almost any of the usual media, where it forms colonies, whitish at first but later becoming brown. In broth cultures it forms a white scum like cotton-wool on the surface, and preparations show long filaments with here and there bunches of spores.

Like actino- and blasto-mycosis the disease usually yields to adequate doses of iodide. Dressings containing iodine should be applied locally.

LUPUS ERYTHEMATOSUS

(*Erythema centrifugum*, *Ulerythema centrifugum*, *Seborrhœa congestiva*, "Batswing" or "Butterfly" lupus)

Of all the many names of this disease none is really quite appropriate. The use of the term *lupus* leads to an unfortunate confusion with tuberculosis, while none of the other names is altogether descriptive. Probably the best is the one suggested by Unna, *Ulerythema centrifugum*, from *ὤλη* a scar, since erythema, scarring, and centrifugal spread are prominent characteristics of the disease. But the name is so firmly established that it is unlikely it will now be changed. In the great majority of cases the disease affects a certain definite area, the nose, cheeks, and ears, when the resemblance to a butterfly, the disease on the nose forming the body, and that on the cheeks and ears the wings of the insect, is very marked. But it may affect only part of this butterfly area, and it is by no means always bilateral. The other situations on which it is commonly found are the hands and scalp. It is quite exceptional on the trunk and limbs.

The disease appears in several forms, some of them so rare that they need only be briefly alluded to. The rarest form is the generalised one, in which the whole surface of the body may be affected, and which not infrequently terminates fatally.

Another rare variety is the téléangiectatic, in which there is comparatively little surface disturbance, but the skin is at first intensely reddened from the dilatation of the capillaries, and later a distinct white scar is left.

The two common forms in which the disease occurs may be conveniently described as the erythematous and the scaly varieties. A case may be entirely or mainly of one variety, or it may be mixed. The erythematous type is characterised by the development of one or more rounded, raised, reddened patches, which enlarge, flatten in the centre, and sometimes closely resemble ringworm. On the raised border of the rings may often be noted a curious "stippled" appearance. They usually disappear in the course of three or four months, and the scar which is left is rarely very marked, sometimes being scarcely perceptible.

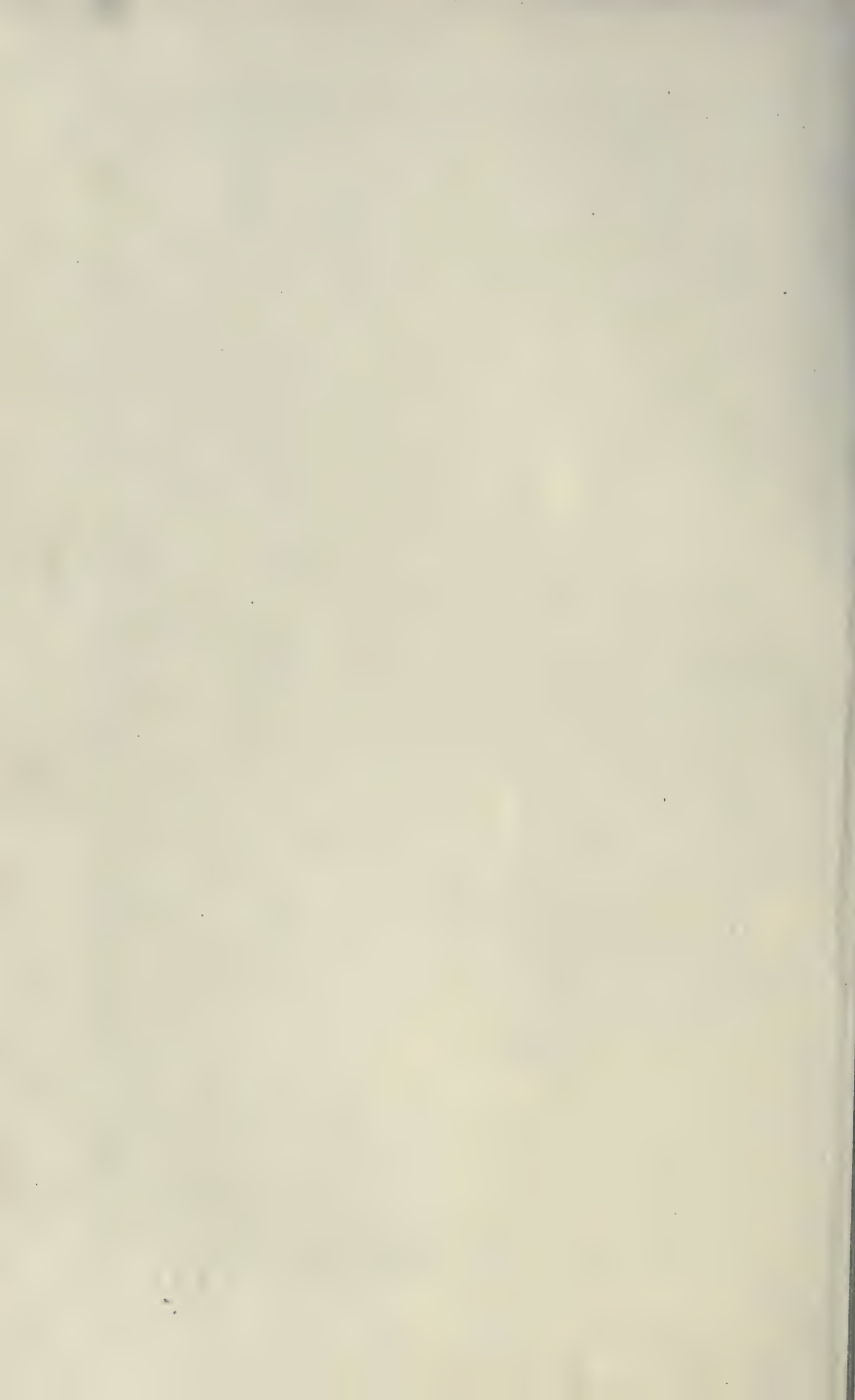
On the fingers the disease is nearly always of the erythematous type. The lesions closely resemble those of chilblain, and are often distinguishable from these only by the fact that they leave behind them a certain amount of scarring, which scarring often nearly disappears with time.

The scaly form of the disease appears on the face, ears, and scalp. The first evidence of its appearance is a slight redness, and the mouths of the sebaceous glands are more prominent than normal, hence it was described by Hebra under the name of *seborrhœa congestiva*. Very soon a little scale forms upon the surface, and if this is removed there may be seen dependent from its under surface little stalactite-like processes, which have been dragged, some of them from depressions in the horny layer, some of them from the mouths of the sebaceous glands. The disease spreads centrifugally, the centre undergoes atrophy, and more or less scarring results. The scales on the surface are of a peculiar greyish, mortar-like character, quite different from those of *seborrhœa*. The Plate opposite shows a very typical case of the scaly form of the disease. The colour of the scaling and the superficial nature of the scar are well shown, and it will be noted that the lobe of the ear has been largely destroyed by the disease, as is not infrequently the case.

On the scalp the areas affected are irregular in shape, the



LUPUS ERYTHEMATOSUS



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LUPUS ERYTHEMATOSUS

centre is scarred, and feels firm, while the border is somewhat raised, carries scales on its surface, and often shows, here and there, the "stippled" appearance already referred to. The part is nearly, but not quite completely bald.

There are no marked subjective symptoms; some patients complain of slight itching and burning.

PROGNOSIS.—The course of the disease is curiously erratic. While some cases get well spontaneously, others persist for years, in spite of treatment, but except in the disseminate form the disease does not threaten life. A few cases are on record in which carcinoma developed.

ETIOLOGY.—In my first edition this disease appeared, as in Unna's classification, under the heading of retrogressive changes — atrophy after previous inflammation. Without criticising his arrangement, I think it must be admitted that we do not yet know enough of the nature of the disease to definitely locate it, and it presents certain features in common with the granulomata; namely, an active stage followed by a retrogressive one, terminating in a scar. For long the disease was confused with lupus vulgaris, and there are still a few who find it simpler not to recognise any important distinction between the two diseases. These, however, are only few in number, but the point is still warmly debated whether, although lupus erythematosus is not tuberculosis of the skin, it is not nevertheless an affection brought about indirectly by tuberculosis.

The arguments used are that certain patients are markedly tuberculous, that others have afterwards become so; and the thick-and-thin supporters of this theory assume in every instance the presence of some hidden tuberculous focus, where the toxins which, circulating in the blood, produce the disease are manufactured. Since patients rarely die of lupus erythematosus, it is not possible always to decide the question on the post-mortem table, but the Vienna experience of several cases which had died from other diseases, and where on a careful search no tuberculosis could be found, is in my opinion sufficient proof that not all cases of lupus erythematosus are due to tuberculosis; and if any are not, then the whole argument collapses. For some considerable time we have subjected

all our cases to von Pirquet's test, and though several have given a positive reaction, a very respectable minority have proved negative, a result similar to that obtained when any number of chance patients are similarly tested.

There are numerous facts of interest which may be noted by anyone observing a large number of cases. The disease is commonest in the colder countries, and generally improves during the warmer months. It is much more prevalent in the female than in the male sex, and in an enormous proportion

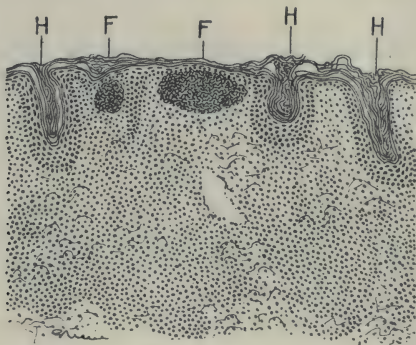


FIG. 62.—Lupus erythematosus. The corium is dropsical and packed with cells; masses of coagulated fibrin are shown at F, and at H are seen the horny plugs which are evident clinically on the under surface of the scales; stained with acid orcein and hæmatoxylin. ($\times 50$.)

of cases there is a history of chilblains; indeed, as already said, on the fingers the two conditions are often indistinguishable.

Organisms have been sought for repeatedly in vain, but that is not sufficient evidence that they do not exist. Inoculation experiments have hitherto been attended by negative results, and really the only definite fact universally admitted is the influence of cold as a predisposing factor. It is easy to surmise that it is a disease due to some toxin circulating in the blood, but very difficult to produce any evidence in favour of the theory.

HISTOLOGY.—The examination of sections does not give much help with regard to the etiology. The appearances are

shown in the two annexed figures. In Fig. 62, a low-power drawing of a section from a patch on the cheek, the epidermis is seen to be extraordinarily thin, the corium beneath is œdematous and packed with cells, and, if appropriately stained, bundles of coagulated fibrin are found here and there through it. According to Holder, the substance taking the stain is not fibrin, neither is it elastin, as Unna suggests, but a peculiar degeneration of the connective tissue, which he compares to coagulative necrosis. The horny layer is somewhat thickened, and the plugs which are evident on the under surface of of

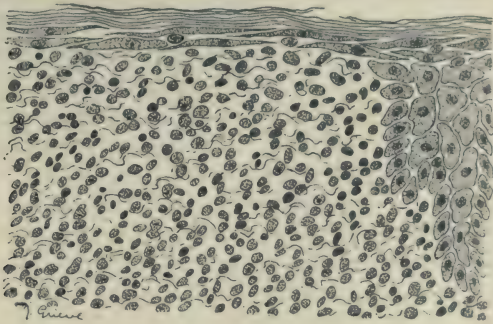


FIG. 63.—Lupus erythematosus. Shows the exceedingly thin epidermis and the dropsical corium, packed with leucocytes and young connective-tissue cells. ($\times 350$).

removed scales are seen dipping downwards. In the high-power drawing (Fig. 63) some of these changes—the extraordinary thinness of the epidermic layer and the cells in the corium, which are of two kinds—leucocytes and proliferating connective-tissue cells—are more easily seen. This section illustrates very well the comparison made by Unna to a morass, the surface apparently firm, the deeper parts treacherous. Thrombosis has sometimes been noted in the capillaries. It will be observed that nothing in the histology suggests tuberculosis.

DIAGNOSIS.—On the face, practically the only conditions with which it can be confused are tuberculosis and syphilis, both of which also leave scars behind them. From tuberculosis it is distinguished by its greater dryness and the grey adherent scale,

as well as by the entire absence of the "apply-jelly" nodules which can always be detected in that disease. The period of its appearance, too, aids in diagnosis, for lupus erythematosus rarely commences before early adult life, whereas lupus vulgaris is most common in children. Lupus erythematosus is also more frequently symmetrical, and the simultaneous affection of the ears, hands, or the scalp simplifies the diagnosis, for lupus vulgaris hardly ever attacks the scalp, and not often both ears.

From the late crusted syphilide it is distinguished by its history, its symmetry, and the difference in its response to anti-syphilitic treatment. The scars of lupus erythematosus very rarely show the pigmentation so usual in syphilis.

Lupus erythematosus of the scalp will hardly be confused with any other disease by one familiar with it. Cases are sometimes diagnosed as ringworm or alopecia areata, but the appearances, the course, and with regard to ringworm, the absence of any fungus, are distinctive. On the fingers, as has already been said, the resemblance to chilblain is so great that it is sometimes only either the development of scars, or the persistence of the lesions during the warm months, that enables one to distinguish the disease.

TREATMENT.—A large variety of drugs are recommended by one or other observer for internal use. I cannot say that I have observed very marked benefit from any of them, but some of my patients have thought that they improved under quinine and phosphorus. M'Call Anderson prescribed iodide of starch; Bulkley, phosphorus; Payne, quinine; Crocker, salicin; while ichthyol, ergot, carbonate of ammonia, iodide of potash, and arsenic, each have their advocates.

It is all-important not to use at the outset any treatment which may do the patient harm. The course of the disease is slow, and it is essential that the physician should have the full confidence of his patient. Therefore it is of prime importance to avoid the application of grease, which almost always does harm to the erythematous form of the disease, and rarely does any good to the scaly one.

Since we are ignorant of the cause of the disease, our treatment is in the main symptomatic.

In the erythematous type our object is to soothe irritation,

diminish hyperæmia, and dispel the exudation in the skin. One of the best applications with which to begin treatment is calamine lotion (p. 158). This is painted on twice or thrice daily. Another consists of zinc sulphate and potass. sulphide, of each a half to two drachms to four ounces of water. Simple dry powders, such as tale, oxide of zinc, calamine, calomel, carbonate of magnesia, etc., may be applied. The swelling of the parts may also be treated by compression, which is most easily exercised by the application of collodion. This must be cautiously used, as it does not suit every case. Another method of treatment suitable in the erythematous form is multiple scarification. Hundreds of shallow incisions are made in all directions across the patch, bleeding is encouraged for a time, and then some simple dusting powder is applied. Some recommend following up this treatment by the application of firm, continued pressure, which it is claimed greatly aids its effects.

The scaly form of the disease is most successfully attacked on different lines. It is perhaps not a bad plan to begin here also with a calamine lotion, if only to avoid the risk of doing any harm. Generally speaking, however, these cases will stand much more active treatment than their appearance would suggest; a case in which the simple application of zinc ointment would produce hyperæmia and exudation will benefit from a thorough scrubbing with soft soap. This method of treatment was originally recommended by Hebra, who advised that a piece of flannel be dipped in soap spirit and the part firmly scrubbed until all the scales were removed. The occurrence of some hæmorrhage is no reason for stopping this treatment, which should be carried out once every twenty-four hours. I usually apply calamine lotion when the bleeding has ceased. I have also seen much benefit result from the application of a mixture of soft soap and metallic mercury, three parts of soap being rubbed up with one part of mercury. This is rubbed in and allowed to remain on the part. Cases may also be treated by the application of liquor potassæ. A pledget of wool is dipped in this and the part is scrubbed for about five minutes. It is then bathed with warm water, and calamine lotion is applied.

Having indicated the main lines of treatment in these two varieties, I may next refer to applications which are recom-

mended for both. Resoreine is sometimes useful; so is salicylic acid, and even chrysarobin; but the drug which has proved most useful in my hands is *oxidised pyrogallie acid*. This is prepared by exposing ordinary pyrogallie acid to the vapour of ammonia. Its chief disadvantage is its black colour. I order it in 1 or 2 per cent. solution in acetone collodion. This is weaker than it is generally used, but it seems to me to be more efficacious than stronger solutions. Though applicable to both varieties of the disease, it is followed by more striking results in the erythematous type, possibly owing to the compression exercised by the collodion in which it is applied.

Other methods of treatment are recommended. Schutz's method consists in the application of Fowler's solution diluted with eight times its bulk of water. This is painted on twice-daily, until a reaction sets in. When this has subsided painting is recommenced, and according to Schutz the disease is usually cured in ten or eleven weeks. I can only say that I gave the treatment a thorough trial in half a dozen cases, and that they were not nearly well in that period. H. Hebra recommended the frequent application of absolute alcohol in which a little menthol has been dissolved. Caustics are recommended by some, but are of very doubtful value, and should never be used by the inexperienced. Scraping is only resorted to by those whose knowledge does not enable them to distinguish between this disease and lupus vulgaris. It never does any good.

In writing of the treatment of this disease in previous editions, while protesting against the very pessimistic view of some observers, I have not felt able to assume an entirely optimistic attitude, but the introduction of CO_2 treatment has altered altogether one's views on prognosis. The effect of CO_2 in lupus erythematosus is as marked as is that of the mercury and iodide of potassium on syphilis. I do not recommend its application to the acute cases, which often yield to milder remedies, and are, in any case, often too extensive for its use, but in the typical patchy form of the disease the results are as good as the most captious critic has any right to expect. The effects are apparently limited to the part to which the snow is directly applied, and some ingenuity is

therefore required in making the application so as to accurately cover the whole extent of the disease. The blocks of snow should be moulded so as to just cover the margin of the disease, and one should endeavour to produce the results with as short exposures as possible, for the shorter the application the less noticeable is the white mark (for one can hardly call it a scar) left by the treatment. Thirty seconds is the longest period which should be occupied by the early exposures, and it will often be found well to cut the first one down to ten. If the disease proves obstinate it is easy to increase the length of subsequent applications; it is not easy to undo the results of an unnecessarily long one. The treatment may require to be carried out for months, the applications being made at intervals of about a fortnight. Perhaps I may best illustrate the advantages of this treatment by mentioning that last spring I asked Dr. Low to get me half-a-dozen cases from our lists for a demonstration. Previously this had always been an easy matter. On this occasion he reported to me that he could not get five cases which showed enough disease to be of any use in demonstrating to students.

This new weapon has rendered it unnecessary to refer to treatment by X-rays, light, and high-frequency currents, to which we formerly often resorted in obstinate cases, but I see no reason to withdraw my old conclusion that those not experienced in the treatment of the disease should be content with the mildest measures.

SCLERODERMA

(σκληρός—*hard*, and δέρμα—the skin)

As the name indicates, this disease is characterised by a hardening of the skin. It appears in two forms, the diffuse and the circumscribed, the latter of which is also known as morphœa (from μορφή—a shape or form).

Diffuse Scleroderma may be universal, affecting the whole of the skin; more frequently it is confined to a region, such as a whole arm, one side of the neck and head, etc. Sometimes the process is divided into two stages, a stage of infiltration or

œdema, and one of atrophy. The former varies in its duration, being sometimes brief, sometimes prolonged.

On inspection there is often not much to be made out, though when the disease affects the face the corpse-like immobility of the part is very striking. When the hand is applied the part feels cold and rigid. The comparison is often made, and very appropriately, to a bladder tightly packed with lard. As the disease advances it seems to affect the deeper structures, and it becomes impossible to move the skin over them. In the later atrophic stage contraction takes place, voluntary motion is interfered with, and the skin may be so tightly stretched over the bones as to ulcerate. On the chest the respiratory movements are restricted, and if the face is affected it may be almost impossible for the patient to eat. Sometimes the mucous membranes are involved. The disease affects by preference the upper parts of the body, and is more common in women than in men.

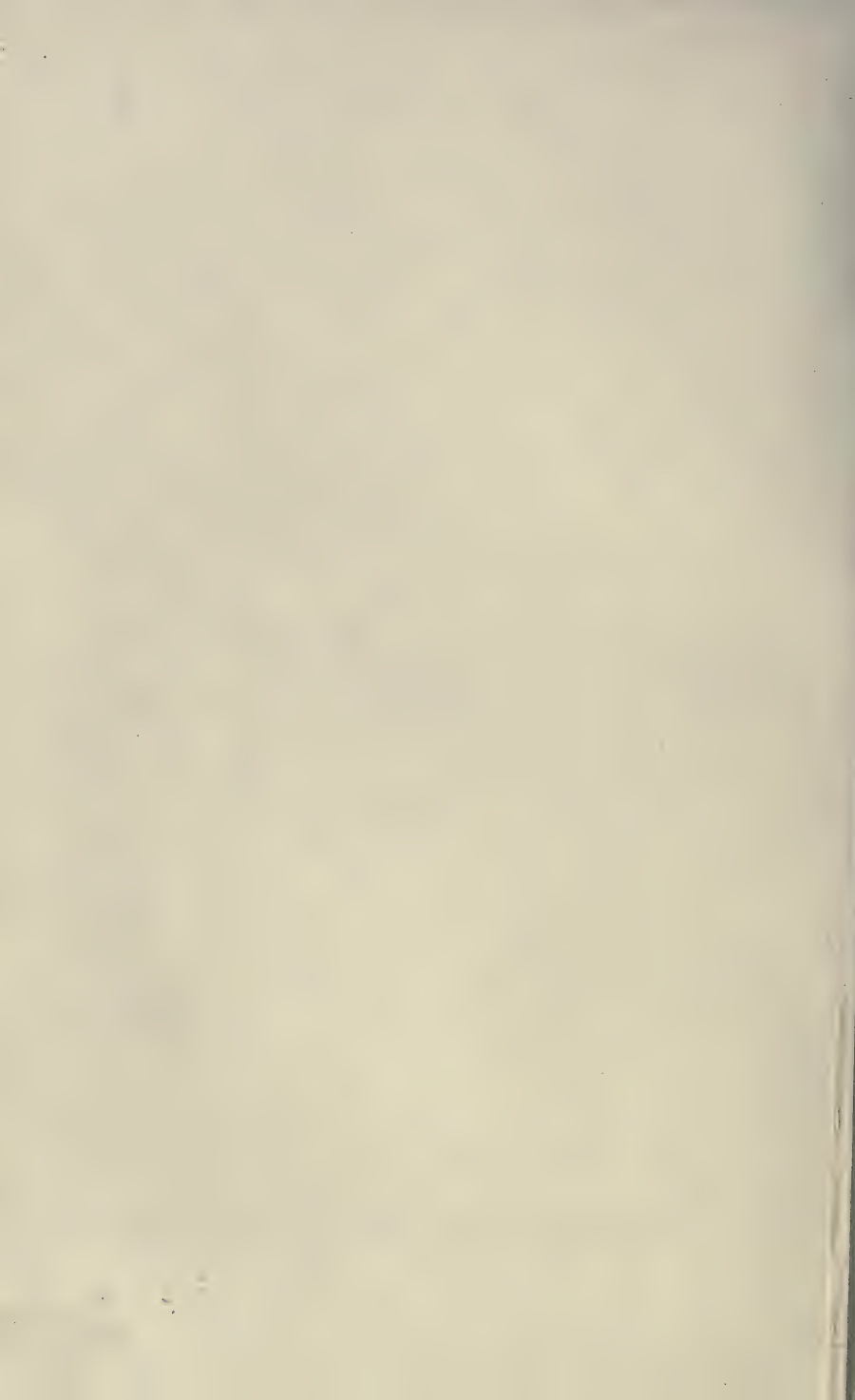
PROGNOSIS. — Sometimes the disease terminates fatally through interference with the necessary functions of the body, but many cases sooner or later clear up, the induration slowly disappearing. In the cases, however, where there has been much contraction, the effects of that contraction, in the shape of atrophy and fixation of joints, often persist. Progress is apt to be interrupted, the patient is very subject to chills, and acute rheumatism is a frequent complication.

Circumscribed Scleroderma, or Morphœa, is regarded by many, and with considerable show of reason, as being a different disease from the diffuse, but cases are on record where the one developed out of the other. As the name indicates, it appears in a more limited fashion than the diffuse variety, the commonest form being a round or oval patch on the chest, aptly compared to a piece of hard leather let into the skin. It is of a white or old ivory colour, and is usually surrounded by a lilac-tinted zone of dilated capillaries.

This is, however, not the only form which it assumes. On the limbs, particularly in children, it tends to appear in band form, the bands being sometimes of considerable length. The old ivory tint is more pronounced in the band type, but the lilac border is not quite so prominent. Unna separates a form



SCLERODERMA (MORPHEA).



of morphœa, which he describes as "card-like" scleroderma. In it the spots are multiple, much smaller than those of typical morphœa, and somewhat depressed, and they have a bluish-white colour, looking, as he says, as if a small portion of a visiting-card had been let into the skin. In a case at one time under Allan Jamieson in the Royal Infirmary, the tiny bluish-white patches could be numbered by the score.

After lasting for a longer or shorter period, the infiltration clears up and the skin returns to the normal.

ETIOLOGY.—The cause of the disease is not known. In the diffuse form, rheumatism and erysipelas are frequent incidents in the history, and changes in the thyroid gland have been noted by several observers. In the circumscribed form some slight irritation is often apparently the starting-point. Shepard notes that the irritation of a collar-stud produced it in one case; its frequent occurrence on the breast of females is attributed to irritation from the corset; and Limont, of Newcastle, observed a case where it occurred simultaneously on both garter regions.

When sections are examined there is found an increased growth of the connective tissue, the elements of which are closely packed together, sclerosed. The blood-vessels are very much narrowed, and this is usually attributed to endarteritis. Unna, however, holds that the narrowing is due simply to the growth and pressure of the connective tissue outside the vessels.

DIAGNOSIS.—The only disease with which diffuse scleroderma could be confused is *Sclerema neonatorum*, but as that disease is either evident at birth or appears immediately thereafter, and as scleroderma does not attack very young children, the question can hardly arise. Circumscribed scleroderma is most easily confused with *Leucoderma*, but the resemblance is only superficial; in leucoderma there is no hardening of the skin, the only change is in the colour. Morphœa, which used to be called the "keloid of Addison," can hardly be confounded with true keloid, the "keloid of Alibert."

TREATMENT.—Time is the great remedy in both forms of the disease, but measures for the promotion of the general health

are very important. Medicines are of little value, but it has appeared to me that *thyroid substance* has favourably influenced more than one case. Salicylate of soda is recommended by some, and pilocarpine by others. Massage is of undoubted value if properly carried out. Hot-air baths, electricity in the form of electric baths, electrolysis, and static electricity have all been tried. I have not seen much benefit from the application of ointments, whatever drug they contained, but Unna recommends the thorough application of an ointment of perchloride of mercury. Some of our cases in the Royal Infirmary have improved very markedly under X-rays.

Hebra claims to have produced improvement in three cases by the injection of *thiosinamin*, 10 α of a 15 per cent. alcoholic solution being injected deeply into the interscapular region every second day. Lindemann has used arsenious acid hypodermically with benefit.

Cases sometimes disappear spontaneously. The patient from whom the cast for the illustration was taken got very rapidly well, and is still under the impression that he owes his recovery to the taking of the cast.

SCLEREMA NEONATORUM

This is a rare disease, which is found in new-born infants, and is often confused with an almost equally rare condition, *Edema neonatorum*. Both diseases are present at birth, or develop very shortly afterwards. Sclerema is always most marked on the back; œdema commences on the feet and spreads upwards. The skin in sclerema is intensely hard, and cannot be pinched up, and the body becomes so stiff and rigid that it can be lifted by one hand. The temperature is subnormal. In œdema the parts are cold, livid, and pit on pressure. Some have suggested that both diseases are due to solidification of the subcutaneous fat, but the evidence of this seems insufficient. In both the prognosis is very grave. Sclerema is very rarely recovered from, œdema occasionally.

The treatment consists in raising the body temperature, and in administering such nourishment as can be absorbed.

LEPROSY

(λέπρα—*leprosy*, from λεπρός—*scaly*)

Leprosy is a chronic disease caused by the *lepra bacillus*. It appears in two forms, which are best distinguished as the *nodular* (tuberous) and the *maculo-anæsthetic*. The division into nodular and anæsthetic, suggested by Danielssen and Boeck, is hardly strictly correct, because the nerves are affected in both forms, while macules are invariably present in the anæsthetic form. Mixed leprosy, too, is an unnecessary term. All cases of leprosy are mixed, and the one may pass into the other; indeed, the nodular almost invariably passes into the anæsthetic if the patient lives long enough.

Leprosy is found in many parts of the world, under such different circumstances that it is evident that climate can have little to do with its development. It may be said, speaking generally, that the more civilised a country, the higher the standard of living of its inhabitants, the less likelihood is there of leprosy.

The bacilli, which were discovered by Hansen in 1884, are straight rods very closely resembling tubercle bacilli in appearance. They have the same irregular staining, clear spaces being left, and the same reaction to staining reagents, with the difference that the leprosy bacillus stains more readily in the cold than does the tubercle bacillus. Many attempts have been made to cultivate them, and these attempts seem to have at last succeeded. No successful inoculation experiments on animals have been made, and Arning's famous case, where the disease was inoculated on a criminal, unfortunately loses some significance from the fact that the criminal had some relatives with the disease.

Heredity has long been a favourite theory in connection with leprosy. It is probable that there is not in leprosy even the quasi-heredity that there is in tuberculosis, namely, the inheritance of a constitution which is not so able to resist the attacks of the bacillus as it should be. Clearly the children of leprous parents have greater opportunities than those of healthy ones of acquiring the disease. Although it is difficult to prove,

in connection with a disease where the incubation period may be as long as seven years, that leprosy is contagious, the fact has nevertheless been demonstrated to the satisfaction of most scientifically minded people. The careful statistics of the leper department of the Norwegian Government clearly show that the number of new cases is directly proportional to the number of patients at large in a district.

Nodular Leprosy. — In this form the lesions appear first upon the skin. As the name indicates, they take the form of nodes, varying in size. They are firm, usually semi-spherical in shape, are seated in the cutis, and the epidermis, being stretched over them, has a shiny surface. At first they have the colour of the skin, then they become reddish, and later, yellow or brown. Their favourite sites are the face, back of the hands, and the extensor surfaces of the wrists. In countries where the inhabitants go barefoot, the dorsum of the feet and the lower part of the calves are often first attacked. The eyebrows are almost always markedly affected, and to this is due the leonine expression so associated with the disease. The nodules are sometimes isolated, with deep clefts between them; sometimes the infiltration is diffuse, and the eyebrows are thickened as a whole. The hairs usually drop out. The eyelids are frequently diseased, and the lobes of the ears are very often swollen with leprous infiltration. The mucous membranes of the mouth, nose, larynx, and pharynx are also involved; all the soft parts of the nose may be destroyed, but the bones are not affected. The infiltration in the larynx is often so great as to threaten suffocation and to require tracheotomy. The lymphatic glands draining the leprous region are always infected, but they never suppurate. The nerves are affected later, the facial, radial, ulnar, median, and peroneal being always attacked, most markedly where they run superficially over the bones, where the increase in their size, due to the increase of connective tissue, enables them to be readily felt. The disease is also found in the testicle, the liver, and the spleen.

The course of the disease varies in different patients. Fresh outbreaks occur at intervals, due apparently to a shower of bacilli reaching the blood stream. In some the eruptions are very few and far between; in others they recur very rapidly.

The more frequent they are, the more vigorous is the growth of the individual nodules. Amyloid degeneration of the internal

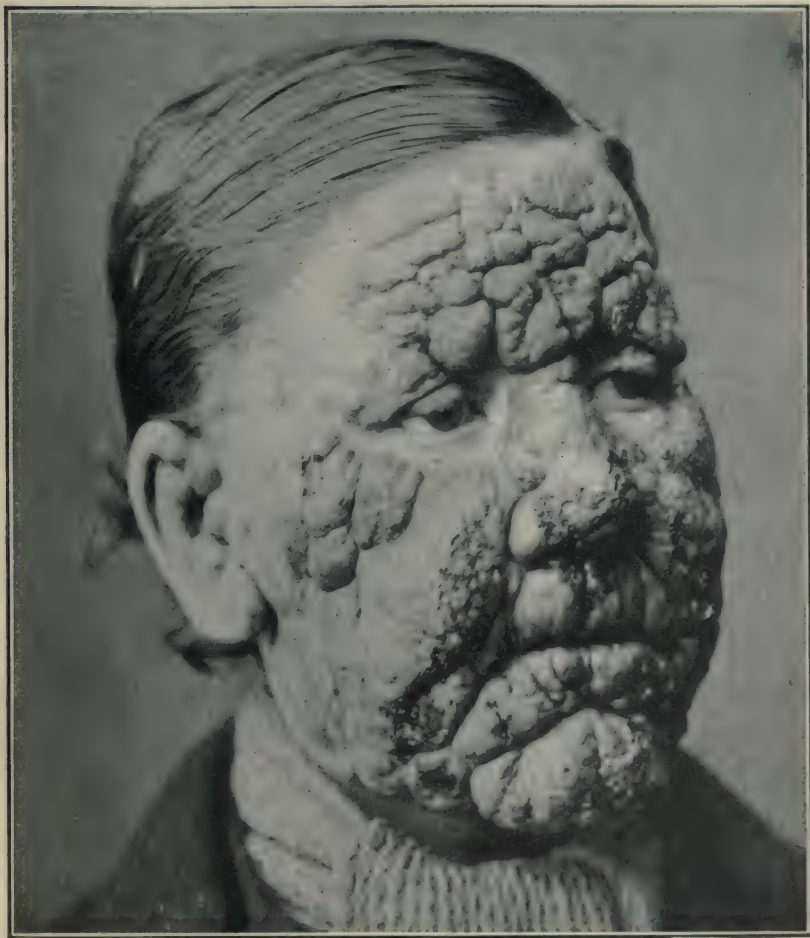


FIG. 64.—Nodular Leprosy. From a photograph given me by Dr. Hansen.

organs is very often the cause of death, and in leper hospitals many die of tuberculosis. The individual nodules are rarely

absorbed, usually they burst and ulcerate, and if no fresh eruptions appear the patient may recover. The average duration of life is eight to nine years after the outbreak of the disease.

When a section of leproma (as the nodule is sometimes called) is properly stained and examined under the microscope the bacilli are found in millions. The generally adopted view is that these bacilli are intercellular, the cells they occupy being usually connective-tissue derivatives. Hansen showed me a section where they were inside a white blood corpuscle. Unna, on the other hand, maintains that the structures in which the bacilli lie, have only the appearance of cells, and are really masses of mucoid material secreted by the bacilli lying free in the lymph spaces. All are agreed, however, with regard to the relationship of the bacilli to each other. They are closely packed together, often in parallel rows like little bundles of cigarettes. In scrapings from an incised nodule the bacilli may be found in great numbers. Most authorities regard the apparent movements as molecular.

Maculo-anæsthetic Leprosy.—This is a much more benign form of the disease than the other, and the prodromal stage, with debility, rheumatoid and neuralgic pains, sometimes lasts for years. The spots sometimes develop gradually and unnoticed, or they may appear suddenly with marked fever. They vary in shape, size, and depth of reddish-brown colour, but have a general tendency to be rounded or ringed. They are most commonly situated on the back and limbs. Their supposed symmetry disappears on cross-examination, and the discovery of bacilli in them has finally disproved the theory that the eruption is vaso-motor. The adjacent lymphatic glands are always swollen, and have been shown to contain bacilli. The nerve affection which is so prominent in this variety of the disease is a leprous neuritis. At first it is accompanied by neuralgia and general hyperæsthesia, but as time goes on the acute symptoms settle down, fibrous tissue develops, and anæsthesia appears. As in the other form, the affection of the nerves is not equal; they are most markedly thickened over the bones. Trophic disturbances, such as the formation of bullæ, ulcers, etc., supervene. The nails share in the trophic changes, the secretion of sweat is diminished, and the hairs fall



FIG. 65.—Maculo-anæsthetic Leprosy. From the case of a sailor from the north of Scotland, under the care of Dr. Elder, in Leith Hospital. The leprosy was contracted in Siam

out. The muscles are not directly affected; their weakness is due to secondary atrophy. This is most marked on the hands, forearms, feet and legs, and on the face. The interosseous muscles atrophy, and the "*main en griffe*" is developed. The orbicularis oris and the orbicularis palpebrarum are paralysed, and the mouth and eye suffer from their disuse. The muscular sense is preserved, and patients can do fine needlework so long as any muscle remains. Many of the so-called trophic affections are indirectly due to the anæsthesia, and are the result of injuries which are not perceived by the patient, who may, for example, sit in front of the fire perfectly comfortable, while his trousers are burned through by the heat, or may lift a boiling kettle, unconscious of the fact that the handle is blistering his hand. Hansen has never succeeded in finding bacilli in these pemphigoid bullæ. The phalanges atrophy, and necrosis often occurs. It is interesting to note with what impunity operations for necrosis may be carried out without anæsthetics, and with complete success.

Cases of maculo-anæsthetic leprosy last for ten, twenty, or even thirty years, the neuritic symptoms becoming more and more prominent in unfavourable cases. Many cases in time suffer from nothing but anæsthesia; the leprosy has gone.

When a recent macule is examined under the microscope the bacilli are found in considerable numbers. The older the macule the fewer are the bacilli, sometimes a very careful search being requisite to find any. The same is true of the affected nerves. In a post-mortem examination the bacilli are very rarely found, but Arning found them in a piece of ulnar nerve removed during life. The medullary fibres have largely disappeared; the nerve is practically transformed into fibrous tissue. The muscles contain no bacilli at any stage of the disease; the muscular affection must therefore be looked upon as a secondary one, due to the neuritis. The spinal cord when examined shows the usual evidence of ascending degeneration.

What determines the variety in any given case is quite unknown. The proportions between the two vary remarkably, but according to Hansen, anæsthetic cases are more numerous where the climate is dry, an observation which

would seem borne out by experience in the dry countries of the East.

DIAGNOSIS.—The diagnosis of advanced cases of nodular leprosy is very easy, and it is generally when the disease is fairly advanced that the patient seeks advice. In suspected cases, where the disease is still in an early stage, the first signs are to be sought in the infiltration of the eyebrows and the ears. If doubt still lingers it can be set at rest by the demonstration of the bacilli. The most satisfactory method is to excise a small portion of a nodule and cut sections of it, but they may sometimes be found in the fluid of a blister artificially induced. They are found abundantly in the nasal secretion.

The maculo-anæsthetic form is by no means so easy to diagnose, and cases are often overlooked when they turn up in countries where leprosy is not familiar. Many of the cases present a superficial resemblance to psoriasis (Fig. 65), although the scarring and the anæsthesia should prevent any mistake in diagnosis. The sensation of growth which is present in this disease, as in syphilis, is one means of distinguishing the two; the development of anæsthesia in the centre of the patch, the enlargement of the lymphatic glands draining the affected surfaces, the thickening of the ulnar and peroneal nerves, and the resistance to treatment, all help to establish the diagnosis. If there is still doubt, excision may be practised. In estimating the amount of loss of sensation the test used must be a delicate one, for the anæsthesia is in the skin, and the sensation of deeper pressure is not lost.

PROGNOSIS.—Both forms *may* recover, all the leprous products disappearing. In nodular cases this is very exceptional, but in the maculo-anæsthetic it is quite common. In reference to Hansen's statement that "recovery is the almost invariable result in the maculo-anæsthetic form," it must be borne in mind that "recovery" refers to the leprosy, and that what is left is usually what Hansen describes as "only a miserable remnant of a human being."

TREATMENT.—The treatment of leprosy leaves much to be desired. The number of remedies recommended is large enough, but those which are really valuable are few. *Salicylate of soda*

is the drug which Danielssen believed to be of most value. He commenced with doses of 15 grains four times a day, and gradually increased it. *Chaulmoogra oil* has a considerable reputation. It is given internally (in doses of from 3j three times a day), and applied externally, and many observers have noted improvement under its use. Arsenic is stated by Hansen to do more harm than good. If pushed, it may cause some diminution in size of the nodules, but this is merely a part of the general emaciation which its too free administration causes, and when the patient recovers his condition after the stoppage of the arsenic, so do the nodules. *Ichthyol* is used both internally and externally by Unna, and is sometimes beneficial, and Crocker had some remarkable results from the injection of *perchloride of mercury*, gr. $\frac{1}{6}$ daily. Iodide of potassium appears to be always injurious; and, indeed, Danielssen used it as a test in cases which were apparently cured, for if any disease remained the iodide of potassium seemed to make it evident.

Surgical methods are often required. Nerve stretching has apparently sometimes been successful in relieving the symptoms. When nodules occur in the sclerotic, and are advancing towards the pupil, the cornea should be divided in front of them; the wall of infiltration seems to prevent farther advance.

Blood serum from other leprous patients has been injected—sometimes it is said with benefit—but until some susceptible animal has been found a leprosy antitoxin is only a dream.

Vaccines prepared from excised nodules are at present on trial, and seem to hold out some promise of success.

According to Hansen, the most important thing both for the patient and the community is to put the patient in as good circumstances as possible, and to use all measures of personal cleanliness; and the remarkable diminution in the number of lepers in Norway under his able and vigorous régime is the very best proof of the value of these means.

SECTION VI

NEW GROWTHS

THESE may be divided according as they are *malignant* or *benignant*, and subdivided according as they are *epithelial* or *connective tissue* in origin.

MALIGNANT EPITHELIAL GROWTHS

CARCINOMA

Cancer of the skin appears in a variety of forms. It may be secondary to cancer of some other organ, when it may take the form either of multiple nodules or of "Cancer en cuirasse," a diffuse carcinomatous infiltration of the skin, which is in rare instances primary. Under most circumstances these cutaneous manifestations are of only secondary importance.

The common primary cancers of the skin are epithelioma and rodent ulcer.

Epithelioma.—This is fully dealt with in all text-books of surgery, and need only be very briefly referred to here. Commencing as an abrasion or a small ulcer, near the junction with some mucous membrane, or, if elsewhere, usually due to the action of some definite irritant, *e.g.* paraffin, it rapidly increases in size, attacks the deeper structures, infects the glands, and if not speedily dealt with leads to the death of the patient. The epithelial cells go through their ordinary metamorphosis, and characteristic horny perles—cell nests—are developed here and there in the tumour.

Rodent Ulcer.—In many text-books of surgery this form of cancer is not sufficiently discussed; in particular, the early appearances of the disease are not described in sufficient detail

to enable those unfamiliar with the condition to recognise it at this all-important stage.

The name is in many respects unfortunate. The disease has always lasted some time before it is either "rodent" or an "ulcer." It commences as a small nodule in the skin, the epidermis over which, being stretched, acquires, as it always does under such conditions (*Lichen planus*, *Molluscum contagiosum*), a shiny, burnished, mother-of-pearl appearance.

While the general statement, that in the great majority of instances it appears on the face above the level of the mouth, and Jacob's, that it appears in the neighbourhood of the eye, are quite correct, probably still greater precision may be attained. In a now considerable experience of this disease I have found that nearly 70 per cent. of the cases are on one of two situations, the relative proportions being about 5 to 3. These are, the border of the nose just where it rises from the cheek, about the juncture of the upper and middle third, and the outer angle of the eye. Of the remaining 30 per cent. of cases, probably 25 occur on other parts of the face, and 5 on the other parts of the body. I have seen it on the scalp, on the forearm (twice), on the back, the hand, the pubis, and on the vulva, in each of these cases the diagnosis being confirmed by histological examination.

The nodule has a glistening, translucent appearance, most comparable to that of the horn of a light-coloured cow. At this stage it may long remain. When it commences to grow, as it extends at the periphery, the centre flattens down, and we have a little hollow surrounded by an elevated ridge, which may be compared to a lake surrounded on all sides by hills. The edges slowly advance, the centre is farther depressed, and this may go on until an area as much as half an inch in diameter is enclosed by the walls. Usually before this size is reached the surface gives way, either wholly or in part, and an ulcer is at last developed. The illustration shows very distinctly this partial ulceration, and the rounded, elevated, advancing border of the growth. When the whole of the surface sloughs, and the ulcer is continuous right up to the border, we have the typical rodent ulcer and the typical


“rolled” edge. The appearance on section resembles that of the figure 5 laid on its side with the tail removed , the



FIG. 66.—Rodent Ulcer. Shows the “rolled” edge, the depressed centre, and partial ulceration.

stroke representing the ulcer and the loop the “rolled” edge. The ulcer has a finely granular surface, the discharge is com-

paratively slight, and if carefully dressed it may temporarily skin over.

If left alone, the disease steadily progresses, attacks and destroys every structure which comes in its way, and ultimately leads to death from exhaustion, hæmorrhage, or meningitis. Metastasis is very rare, but it is not unknown, and more than one sufferer has to my knowledge died from cancer of some internal organ.

When sections are examined the difference in structure between rodent and epithelioma is at once evident. Whereas in epithelioma the new growth is evidently continuous with the surface epithelium, in rodent the *evident* connection is very slight. When it does develop from the surface epithelium, and I admit that in some cases it does, it very soon takes on an independent course, and has a prolonged duration *below* the epidermis, before it once more comes to the surface as an ulcer. This is not the place to discuss the various conflicting views as to the origin of the growth. Possibly all are partly right, and the disease may take its origin in the rete, the hair follicles, the sebaceous, or coil glands. I believe, however, that Sir Benjamin Brodie was correct when he drew attention to its very frequent origin from moles. The structure of many of these growths closely resembles that of certain rodent ulcers, and although moles are usually described as consisting entirely of connective-tissue elements, they are, in fact, almost all of epithelial origin (see p. 313).

The specific cells of rodent ulcer are small, closely packed together, and are arranged either in alveoli or in long thin processes. While one or other of these architectural plans is mainly followed in any given case, both arrangements are often found. When in alveoli, they very often have a peculiar "whorled" arrangement, and although in the centre of large masses they may show degeneration (probably colloid), they do not, except in very exceptional instances,¹ undergo any cornification and form cell nests.

Fig. 67 is a section of a portion of the growth shown in

¹ Taking together my own and other specimens which I have examined, must have seen over 300, and I have only twice seen cell nests.

Fig. 66, and illustrates very well the appearance of a typical rodent ulcer.

DIAGNOSIS.—If the case is seen in the early stage, before any central depression has formed, it is difficult to distinguish it from an unpigmented mole. If, however, the growth is increasing in size—and the patient is hardly likely to seek advice unless it is—it is well to remove it on chance. When the central flattening has occurred I do not know of any other condition with which it can be confounded. The reason it is not more often diagnosed at this stage is that the term “ulcer” is so unfortunately associated with the disease.



FIG. 67.—Section of a Rodent Ulcer (low power). Note that there is no ulceration.

When ulceration has occurred it may be confounded with syphilis and tuberculosis. From the former it should be easily separated. A syphilitic ulcer will reach a size in weeks which it will take a rodent years to attain. Itching, which is usually conspicuously absent in all syphilitic manifestations, is generally the only complaint made by a patient with rodent ulcer. Pain is remarkable by its absence even in advanced cases. While both ulcers may skin over under simple cleanliness, the syphilitic one will remain scarred, while the disease spreads at the margin; the rodent scar invariably breaks down again. Too much stress should not be laid on the effects of treatment. The late ulcerating syphilides are by no means too ready in their response to it, and the fact that a doubtful ulcer does

not at once commence to improve under iodides does not prove its non-specific character.

From tuberculosis the diagnosis is much more difficult, and I have to confess to having on two occasions removed tuberculous ulcers under the belief that they were rodent. A great deal too much has been made of the age at which the diseases respectively attack the skin, and the statements that lupus is a disease of youth, and rodent one of age, are neither of them to be taken as absolutely definite. The two cases above referred to were aged, one twenty-five and the other fifty-five, and in both the lesion had a duration of less than two years. Rodent usually commences about the age of forty. The statistics which show a greater age usually deal with the age of the patient at the time of the operation, and ignore the fact that the disease may have lasted ten, fifteen, or more years. Lupus, too, is by no means so exclusively a disease of youth as is so dogmatically laid down by the Vienna school. Quite 10 per cent. of all cases develop in adult life.

The points of differentiation on which stress is to be laid are: (1) The history. If the word of the patient can be depended on, this is of considerable value, for the translucent prominent nodule of the early rodent differs very much from the reddish-brown, flat lesion of lupus. (2) Direct observation. It may be that the lupus has taken on the fibroid type (see Lupus, p. 253), and is elevated above the level of the skin; it may feel hard, but it always lacks the abrupt, rounded, elevated border which is so characteristic of rodent, and it is almost always possible to demonstrate some of the brownish-yellow nodules which are essential to the absolute diagnosis of lupus. If it is impossible to decide the matter, it is best to err on the safe side, and treat the disease as if it were rodent.

PROGNOSIS.—Untreated cases go on steadily from bad to worse, and invariably prove fatal if the patient does not in the meantime die from some other disease. If diagnosed early and properly treated, there is no tendency to recurrence, and it is in order to emphasise the importance of early diagnosis and thorough removal that I have given to this disease an amount of space which may to some less familiar with it appear disproportionate to its frequency.

TREATMENT.—At its early stage, if the growth is so situated that it can be completely removed and the edges brought together with little disfigurement, then the knife may be employed. Formerly I was a strong advocate of this method, but increased experience has led me to prefer the sharp spoon. The usual seat of the disease, the face, tempts the operator to remove as little as he possibly can, and if any portion is left the disease of course "recurs." With the spoon one is spared this temptation, for with that instrument one removes all one can. Thereafter, when the bleeding has ceased, I apply fused chromic acid freely. The scab which results often remains adherent for nearly a fortnight, and when it falls the part is generally soundly healed. The scar is smooth, and generally less disfiguring than that left by the cutting operation. Further, and this is an important point, the lesion looks so trivial that it is often difficult to get a patient to consent to the use of the knife, while the spoon carries less dread to the laity.

I have recently treated several cases by freezing with CO_2 . It is, of course, specially valuable where the lesion is small, and the scar which it leaves is almost unnoticeable. Even where the extent reaches to perhaps half-an-inch in diameter, provided ulceration has not occurred, I believe it to be one of the best methods of treatment. The application must, of course, extend rather beyond the limits of the disease, and should be made with considerable pressure and for about one minute. The common situation of the disease near the eye is in this connection something of a drawback to this treatment, for the reaction following the freezing is specially severe in this neighbourhood. Still, provided one foresees this and takes suitable precautions, the risk of doing any serious harm is not great.

When the disease has reached the further stage of ulceration, and is therefore of greater size, patients are more ready to submit to the knife, and its use should be considered, for in some situations it remains the best remedy.

Treatment by the application of caustics has fallen into some disrepute, chiefly because of the ignorance of many who used them. There is no doubt that if applied under experienced direction many cases of considerable extent may

be treated as satisfactorily with regard to cure, and more satisfactorily with regard to appearance, by caustics than by the knife.

In the first place, suitable caustics must be used. Nitrate of silver and other playthings of that nature always do harm, merely stimulating the growth to increased activity. The caustics which may be used safely are *salicylic acid*, *pyrogallol*, and *resorcine*, and, probably most satisfactory of all, *arsenious acid*. All these drugs have what has already been referred to under lupus as a *selective action*, i.e. they act more destructively upon the diseased cells (in this case the cancerous ones) than on the healthy tissue around. The formula which I use is

R	Acid Arsen.	} āā 5ij
	Acaciæ pulv.			
	Orthoform				. . . . . 5ss

This is made into a paste with a little water, and if the surface be ulcerated it is applied directly to it. If the surface be not ulcerated it should be rawed either by the curette or by the application of a strong solution of caustic potash, and in any case it is a good custom to treat the edges, which rarely are ulcerated, in this way. In twenty-four hours the part has swollen up, and the pain experienced is very severe, so severe that it is often necessary to give the patient morphine. If enough destruction has been caused at the end of that period a poultice may be applied to hasten the separation of the slough. But if one has reason to suppose that the carcinoma extends for any distance beyond the actual ulcerated surface, then a fresh application of the paste should be made. I cannot say that I have ever seen any of the harm result from a too prolonged use of the paste which I have repeatedly seen from its too brief use. Under poulticing the slough separates and comes away in a week or ten days, leaving behind it a healthy granulating surface, which has to be watched for any trace of disease persisting. In many cases one course of this treatment is successful; it is want of courage in the application which is responsible for the disrepute into which this caustic method has fallen.

Czerny uses an alcoholic solution of arsenious acid, painting it on daily and watching the results.

In the X-rays we have obtained a treatment for rodent ulcer which probably surpasses all others. They are applicable to all forms of the disease, but are especially of value in those widespread cases which have spread beyond the reach of the surgeon's knife. Indeed, I prefer the other methods in the small non-ulcerated cases. In one such I had to stop the application on account of the development of the keratotic growths which are the first stage in X-ray cancer. In the widespread ulcerated and excavated cases, exposure to the rays results, first in a drying up of the discharge, and an increased feeling of comfort. In the course of a week or ten days it is quite apparent that epithelium is growing from the edge over the surface of the ulcer. Not only this, but the excavated cavity seems to fill up from the bottom, and if the treatment is persevered in the ultimate result is a smooth flat scar, which no one unfamiliar with the method would have believed to be possible. Unfortunately, cases in which the bone or cartilage are affected do not yield to the X-rays. They may improve a little, but if the part is removable it should be taken away, and the rays then applied to the raw surface. As a rule, when the bone is affected no treatment has much chance of effecting a permanent cure.

XERODERMA PIGMENTOSUM (KAPOSI'S DISEASE)

Atrophoderma pigmentosum, Melanosis lenticularis
progressiva
(ξηρός—dry)

This is one of the rarer diseases of the skin, and none of its numerous names is altogether satisfactory. It is one of the family diseases,¹ and usually affects all the members of one sex. The first evidence of it is a dry roughness of the skin of the face and hands, at the period when the child first begins to be about in the open air. About the age of three or four a series of little

¹ There is a very interesting family history in connection with one of my groups of cases. The father and mother each had a daughter by previous unions. These children were unaffected, but the three daughters of their marriage are all affected.

pigmented spots, usually rather darker than freckles, appear on the exposed parts (face, neck, and hands). This freckling, though it does not disappear in winter, is always worse during summer. Then the skin begins to shrink, little areas become white and atrophic, and for this reason Crocker preferred the name *Atrophoderma pigmentosum*. The shrinking of the skin draws down



FIG. 68.—Xeroderma pigmentosum (early stage). From a case of Dr. J. J. Pringle's.

the eyelids, giving the child a peculiar woe-begone expression (Fig. 68). There next develop teleangiectases, or dilatations of the capillary vessels, which add their share to the variegated appearance of the patient's face. The next symptom consists in the development of little mole-like or warty growths, not unlike those caused by X-rays, which, if left alone, rapidly take on a malignant action, destroy all the tissues in the neighbour-

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XERODERMA PIGMENTOSUM
(Stage of Malignancy)

hood, and lead to a fatal result. This result is due to the exhaustion produced by local destruction; the tumours do not metastasise.

The true nature of the disease is unknown. Exposure to the sun has very evidently an important bearing on its development, but beyond that we know nothing. The tumours are, according to Unna, merely the development of hitherto unnoticed or unnoticeable moles (*g.r.*), and if each of these is removed as soon as it is observed the progress of the case is very much delayed. It would seem as if the efforts of the skin to protect the deeper tissues from the sunlight were ill-directed, and instead of the ordinary bronzing of the face occurring, the pigmentation is concentrated in small areas.

PROGNOSIS AND TREATMENT.—The prognosis is very grave, and the duration of the disease depends entirely on the care which is taken of the patient. If he is protected from the sun by wearing a brown veil or gloves, and if the little tumours are removed as soon as they are observed, he may live for many years, but the disease usually terminates fatally.

Herxheimer and Hildebrand have recently published an account of four cases of this disease, with an inquiry into the after history of several of the hundred cases now on record. Their findings suggest that if the period of adolescence can be tided over the progress of the disease may be stayed, and in this connection it is interesting to recall the fact that hydroa vacciniforme, another disease dependent on the sun's rays, usually disappears at that period. The patient from whom the annexed illustration is taken (then under Dr. Allan Jamieson's care) for a time benefited markedly from exposure to X-rays. The warts disappeared, the pigmentation diminished, and so long as the treatment was continued the disease certainly made less progress than before. It is only right, however, to mention that some cases have apparently been aggravated by exposure to the rays. During the last two years I have treated this patient by various methods, including X-rays, erosion, and CO_2 . She is now sixteen years of age, and her skin is in better condition than it has been for years, but this result has only been attained by keeping her under constant observation and almost constant operation.

PAGET'S DISEASE OF THE NIPPLE

This is a cancerous inflammation¹ of the nipple and areola, which occurs in middle-aged women. The surface is dark red, granular, and moist. Sometimes crusts develop, and conceal the red granular surface. Some slight itching is often felt, generally alternating with pain, which latter is often very severe. The disease may last in this form for many months, but ultimately the carcinomatous process spreads to the breast itself.

DIAGNOSIS.—This is, of course, of the utmost importance, for on early diagnosis depends the patient's life. The only disease with which it can be confused is eczema. Eczema of the nipple generally affects both nipples, is practically confined to women at the nursing period of life, and does not often extend continuously beyond the areola. The apparent enlargement of this is therefore a suspicious sign. Though there is often some degree of infiltration of the skin in eczema, there is in this disease that peculiar hardness which is common to all malignant epithelial growths of the skin. McCall Anderson compared it to the feeling of a penny felt through a piece of cloth. Eczema is associated with more itching than is Paget's disease, and probably fissures are more common in the former. At the same time, it must be admitted that the diagnosis is often very difficult, and in a doubtful case occurring in a woman over fifty, another opinion should always be taken. If this is not available, it is probably safest to assume that the more serious disease is present.

Cases have been recorded where a similar affection appeared on other parts of the body.

TREATMENT.—Treatment consists in the removal of the entire breast. Partial operations are rarely satisfactory.

The patient from whom the illustration opposite is taken was treated as all cases ought to be treated. I saw her one

¹ Unna regards Paget's disease as an inflammation, not in itself cancerous, which, however, prepares the ground for cancer so successfully that in most cases it develops.



PAGET'S DISEASE

afternoon, sent her immediately to Mr. Alexis Thomson, who removed the whole breast two days later. Examination showed that the cancer spread right down into the breast. The result of the operation has been entirely satisfactory.

MELANOTIC CARCINOMA

Most melanotic growths are carcinomatous. Their structure is difficult to investigate, on account of the deep pigmentation, but when this is removed by appropriate means their carcinomatous structure can generally easily be recognised. Melanotic cancer¹ begins in a mole which has previously existed in a quiescent state. Some unknown irritant excites rapid growth, and the disease spreads to other parts of the skin, to the glands, and to the internal organs. An unnoticed pigmented mole is often discovered between the toes, but in many instances it is impossible to discover the primary cause of a profuse eruption of melanotic nodules. For the dermatologist the interest lies in the early stage, when the mole first shows signs of irritation, for it is then that the question of treatment comes up for consideration. It cannot be too definitely laid down that there is only one treatment for an irritated pigmented mole, namely, immediate free excision. If the patient objects to this the mole is far better left alone than treated with any irritating caustic. Too often even the promptest interference is too late. It is, indeed, impossible to overestimate the gravity of the prognosis of melanotic cancer. When a number of melanotic nodules have developed it is as well to leave the case alone. Operative interference of a partial kind generally aggravates and spreads the disease.

When pigmented moles occur on regions commonly exposed to irritation they should be removed at the earliest convenient moment. Prevention is better than cure.

¹ I do not here refer to the melanotic growths of the eyeball, though I believe that they too correspond more with the carcinomata than with the sarcomata.

MALIGNANT CONNECTIVE-TISSUE GROWTHS

SARCOMA

Both the spindle- and round-celled sarcomata may occur in the skin, where they may either be primary or secondary. As already stated, most melanotic growths are carcinomatous, though one is not prepared to deny that a sarcoma may accidentally be pigmented.

Unless promptly treated the prognosis is, of course, extremely bad. The sarcoma should be excised whenever the nature of the tumour is recognised. When it has become very widespread, and is beyond the reach of surgical treatment, the subcutaneous injection of arsenic is sometimes useful. The injections need not be made directly into the tumours. The drug may also be given by the mouth, though it seems to act less beneficially than when injected. X-rays have been used with marked benefit in some cases.

BENIGNANT EPITHELIAL GROWTHS

VERRUCA

(*Verruca—a wart*)

Warts are little tumours composed mainly of epithelium, each division of which contains a connective-tissue core. They appear on any part of the surface, and are, in all likelihood, due to some contagion, the nature of which has, however, yet to be discovered. The appearance of the ordinary wart is so familiar that it is unnecessary to describe it. The plane or flat wart is not quite so familiar. It is not uncommon on the hands, and consists simply of a thickening of the epithelium, which does not divide into processes, and consequently does not project in a cauliflower manner over the surface.

The simplest way of getting rid of warts is to snip them off with scissors. If this plan be adopted all the lesions should be treated at a sitting, and if the part be frozen the pain is comparatively trifling. Freezing with CO₂ is often

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MOLLUSCUM CONTAGIOSUM.

remarkably successful. Salicylic collodion (a drachm to the ounce) may be applied daily. This gradually destroys the redundant epithelium. Carbolic acid, acetic acid, and even more powerful caustics are sometimes used. They distribute the pain over a greater period of time, and are not any more satisfactory than the scissors method. In those warts which occur in the genital region the application of a simple drying powder, with perhaps 5 per cent. of salicylic acid in it, often suffices. Warts there owe their size to the heat and the moisture of the parts, and when these are dispelled they shrivel up. The effect of the X-rays on warts is most remarkable. I have seen crops of two or three hundred flat warts totally disappear after a series of exposures to the rays amounting altogether to about an hour. Though it is generally very successful, I have seen the treatment fail entirely.

MOLLUSCUM CONTAGIOSUM

This is by no means as rare a disease as is often supposed; a good many cases pass unrecognised as ordinary warts. The usual history of a case is that a small "pimple" appears on the skin. Of this little notice is taken. By and by it swells, and gets red and irritable. Some soothing application is made, under which the signs of irritation disappear. Some weeks afterwards a group of little tumours appear in the neighbourhood. These vary greatly in size. They may be no larger than a small pin's head; they grow as large as a hazel nut. At first they are of a yellowish-pink colour, their surface is shining owing to the stretching of the epithelium, and they contain in their centre a dimple or a projection which gives to them a very characteristic appearance. All this is illustrated in the Plate. The original lesion which suppurated, and the secondary crop which appeared later, are all well shown. The case was that of a shop-girl who regularly attended the public swimming baths. During the last two and a half years we have had about fifty cases in the Royal Infirmary, and close analysis of these has shown how remarkable a part public baths play in the dissemination of the

disease, for more than half of the sufferers were regular attendants at one or other swimming bath. From statistics recently given by Dr. Graham Little it would seem that the disease is exceptionally prevalent in Edinburgh.

When one of the little growths is examined under the microscope the condition shown in Fig. 69 is seen. The appearance of a central section recalls that of a sebaceous gland, that is to say, the epithelium is arranged in lobules, in the centre of which, as in the sebaceous gland, a change has taken place. The change, however, is different, and instead of

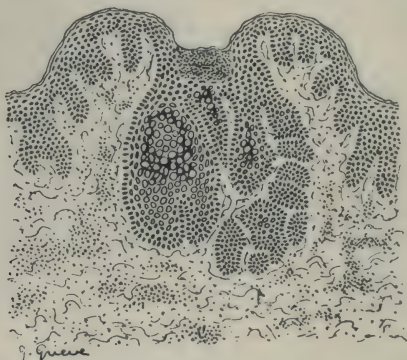


FIG. 69.—Molluscum contagiosum (low power).

the fatty débris found in the sebaceous glands, we have here a number of hard oval structures which are known as "molluscum bodies." These are the result of hyalin degeneration of the epithelial cells, and are not, as was at one time supposed, parasites. The explanation of the lobulated character of the growths is purely physical, and is referred to on page 4. The actual cause of the disease is still unknown. The growths are undoubtedly contagious, but no one has as yet been able to identify the organism. The disease is most commonly contracted in some form of public bath. The contagion is one that takes a long time to show its results. Pick found that six or more weeks elapsed before any trace appeared at the seat of inoculation. The disease also occurs in the lower animals, and Shattuck has drawn attention to its occurrence in sparrows,

pheasants, domestic fowls, and pigeons. If left alone it will continue to spread; indeed there is no reason why it should not go on for ever.

TREATMENT.—This depends on the number of the lesions. If there are only three or four lesions they may be snipped off with scissors, which is the most certain method. If more numerous each lesion may be seized between the blades of a broad-pointed forceps and forcibly eviscerated; in infants an anæsthetic is required. One or two of the lesions so treated occasionally recur, and an outlook should be kept for the very earliest sign of fresh lesions. These if touched by pure carbolic acid will disappear. Like so many other epithelial growths, those of molluscum contagiosum disappear when exposed to the X-rays. Obviously these are only applicable when the lesions are grouped as in the coloured Plate. This patient was treated successfully by their means.

If the case comes under treatment when the original lesion is in the suppurative stage it should be treated by carefully applied antiseptic dressings, so as to prevent dissemination of the infection.

The long period of incubation must be kept in mind.

MOLES (*Nævi*)

Moles are epithelial growths of congenital origin. They may not be visible at the time of birth, but in all probability their foundations are laid, though they may never be used for building on. Moles are the best example of Cohnheim's aberrant cells.

They are distinguished from warts by the absence of any papillary marking on their surface. The surface may be creased and grooved, the natural lines of the skin exaggerated, but it has not the cauliflower appearance of a wart. The explanation of this is found on examining a section, when the new growth is found to lie *beneath* the surface epithelium. This new growth consists of cells which, being small in size and indeterminate in character, have usually been regarded as of connective-tissue origin. In the moles of adults it is

exceedingly difficult to determine their character, but if moles from young children are examined it is generally easy to make out their origin from the surface epithelium. Rounded or pyriform areas of cells may be seen, still in connection with the rete, dropping down into the corium, where little rounded collections apparently derived from the same source may be seen. The fact that, when these little growths take on a malignant action and spread, they follow the course of carcinomata, is a strong clinical argument in favour of their epithelial origin. Probably all moles are to some extent pigmented. In most of them the pigment is limited to superficial layers, and it is exceptional to find the pigment throughout the entire new growth of cells.

The deeply pigmented moles may give rise to melanotic cancers, while the non-pigmented ones, as Brodie long ago pointed out, are not infrequently the starting-point of rodent cancer of the skin. If moles are seated where they are exposed to irritation, or in a locality (such as the side of the nose) where they are liable to take on malignant action, they should be removed, even although they show no signs of activity. Perhaps the knife is the best remedy, but in CO_2 we have one nearly as good, and one to which patients are very much more ready to submit. The snow should be shaped into a very hard, pointed pencil just larger than the growth, and the length of application and the degree of pressure should depend upon the depths of colour and the amount of tissue in the mole. It is true that short applications leave behind them less marked whitening, but too short applications sometimes seem to disseminate the pigment without removing it.

The very disfiguring hairy moles which so often occur on the face have not hitherto proved very amenable to treatment, and it is therefore with some satisfaction that I record the very remarkable improvement in several of my patients who have been carefully treated by Dr. Low with CO_2 snow. Not only has the pigment been greatly lessened, but the thick strong hairs have either entirely disappeared or been replaced by a downy almost unnoticeable growth. A series of applications has usually been required, but the results have amply repaid the inconvenience of the reaction.

BENIGNANT CONNECTIVE-TISSUE GROWTHS

FIBROMA

This may be single, when it presents no special peculiarities. When multiple, the condition is more correctly described as Neuro-fibromatosis, and is usually known as *Molluscum fibrosum*. The sufferers present a very remarkable appearance. Fig. 70 is from a photograph taken by my friend Dr. Rorie, of Cults, of a Hindu who was supposed to owe the disease to a change of his religious opinions. It is an admirable example of a well-marked case.

When first noted, each tumour is evident as a little hard nodule, feeling, beneath the loose skin, like a pea or a bean covered with thick velvet. The lump increases in size, and gradually projects above the surface, while the skin stretches over it. Sometimes the tumours undergo a species of atrophy, and a little empty bag of skin is left. Cases so severe as that shown in the Plate are fortunately rare, but instances where there are a dozen or two tumours are not infrequent. They give rise to no symptoms, except those of inconvenience on account of their size and position.

When the tumours are examined under the microscope they are found to consist of fibrous tissue, dense or loose, according to the consistence of the tumour. "They are of the nature of soft fibromata related to the terminal filaments of the cutaneous nerves, and they resemble very closely the structure of the plexiform neuro-fibroma" (v. Recklinghausen). Alexis Thomson, whose masterly monograph should be consulted for further information, says the tumour tissue is either a succulent, spongy, feebly fibrillated tissue, rich in cells and blood-vessels, or a tougher more fibrous tissue, with the fibres arranged in bundles. There is neither any new formation nor any degeneration of the nerve fibres concerned.

DIAGNOSIS.—This presents no difficulty. There is practically no disease with which it can be confused; mycosis fungoides, which has a very distant resemblance to it, could only be mistaken for fibroma by one who was unaware of its existence.

TREATMENT.—Nothing is of any avail but removal of the growths; and precautions with regard to hæmorrhage, which

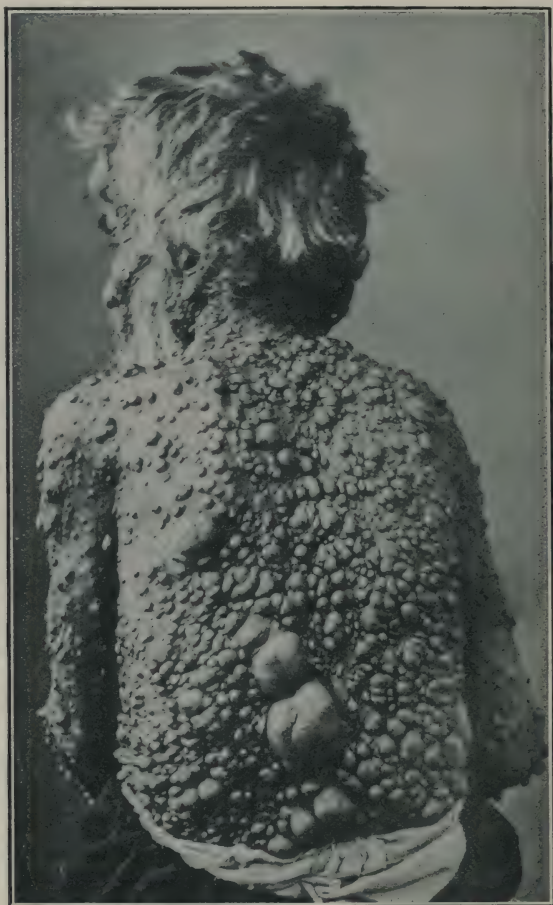
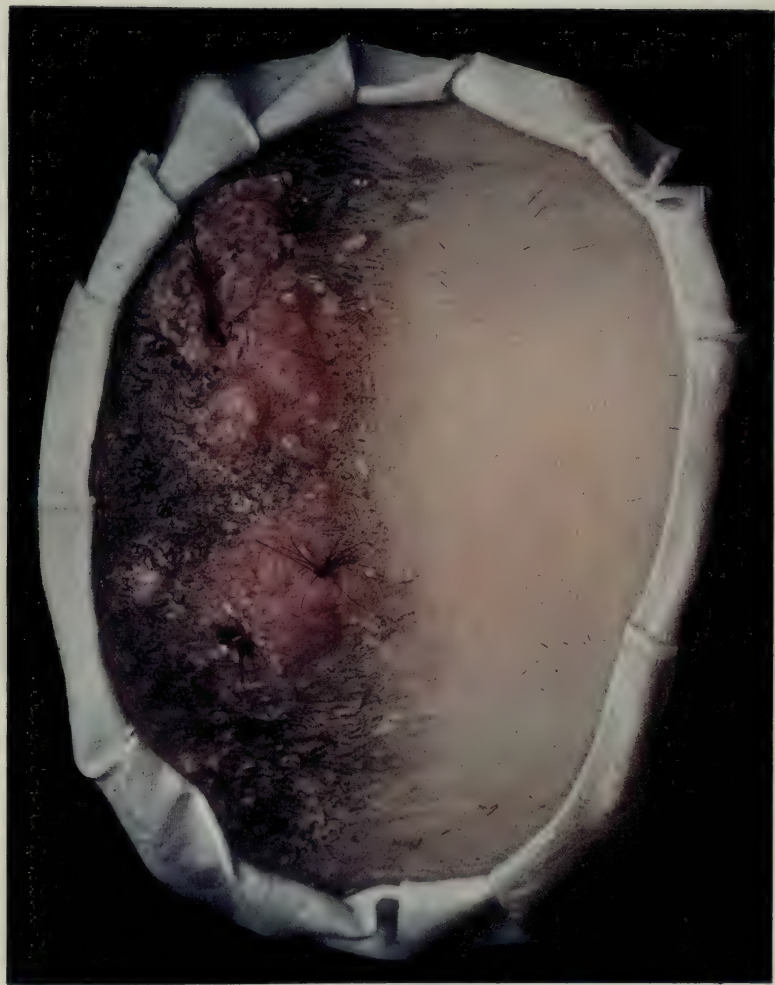


FIG. 70.—Molluscum fibrosum.

is sometimes considerable, should be taken. Of course, in cases of the severity shown in the Plate, only those growths which are seriously inconvenient are removed.

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ACNE KELOID

KELOID

(χηλή—a *claw*)

While there is no great difference in their anatomy, there are sufficient clinical differences to justify a distinction between keloid proper and the hypertrophic scar. True keloid is a very characteristic growth, and is admirably represented in Fig. 71, for which I am indebted to the late Dr. Limont, of Newcastle. Probably all keloids arise in scars, though these may be of such a minute nature as to have altogether escaped the patient's attention. In this case, as in a great many others, the keloid commenced in a scar produced by the application of a mustard poultice. On the chest and back, the commonest situations of keloid, it probably takes its origin in the scars of some bygone acne. The name is well fitted to the appearance. The tumour is longer in one direction than in the other, and usually sends out at its long ends *claw-like* processes. At the sides the margins are usually more abrupt, and the number of processes less than shown in the illustration. The colour is a bright pink, and the surface is shiny, through stretching of the epidermis, beneath which a few dilated vessels may be seen. Once developed, keloid tends, with occasional intervals of rest, to steady increase. In this it differs very markedly from the hypertrophic scar, which, though it hypertrophies, does not usually spread beyond its original limits. The hypertrophic scar is frequently seen in connection with operation wounds in tuberculous cases, and is quite commonly the result of scraping lupus. Keloid is most often single, but two or three are not infrequent, and cases are on record where the tumours have been numbered by hundreds. Such cases usually follow eruptions of boils, smallpox, etc.

When a section of keloid is examined under the microscope it is found to consist of very dense fibrous tissue; all the epidermic appendages have vanished, and the rete runs in a thin layer over the surface. The fibrous tissue is sometimes fairly cellular if the growth be active, and keloid may be regarded as a step on the ladder between the simple fibroma and the recurrent fibroid of Paget.

In favourable cases the part may flatten down and the tumour disappear, but as a rule the duration is prolonged, cases



FIG. 71.—Keloid.

having been recorded where the growths had persisted for forty or fifty years. The hypertrophic scar shows much more tendency to disappear than does the true keloid.

TREATMENT.—Excision, which would appear to be urgently called for, is worse than useless. It seems to be a matter of indifference how wide the incision goes, the tumour always returns in an aggravated form in the scar. The same is true in a modified degree of the hypertrophic scar. Other means have consequently been attempted, and electrolysis, multiple scarification, and pressure have all been used, sometimes with a certain amount of success. *Thiosinamin*, which was introduced by Hans Hebra as a remedy for lupus, has on several occasions been used with benefit in keloid. It may be injected into the growth, or applied over it in the form of a plaster, as prepared by Beiersdorf and recommended by Unna. In my own experience there are only two useful remedies for keloid, X-rays and CO₂, and of these I give the palm to the latter, though the former are more applicable to very large keloids. In such a long series of exposures is usually required, and the signs of improvement are often slow in appearing, so that perseverance is necessary. Small keloids disappear like magic under one application of CO₂, short or prolonged according to the thickness of the growth.

NEUROMA

(νεῦρον—a nerve)

True neuromata of the skin are unknown. Alexis Thomson says that all the authenticated cases of true neuroma were connected with the sympathetic nervous system. "Painful subcutaneous tubercles" are subcutaneous growths which appear particularly on the forearms, hands, and legs, and are generally exceedingly painful, at least on pressure. They are circumscribed tumours of the nerves, and may be fibromatous, myxomatous, lipomatous, angiomatous, or lymph-angiomatous. They arise from the sheath of some nerve trunk, and are met with in the course of nerves, and not at their peripheral terminations. The pain is due to stretching or compression of the nerve fibres. Excision is the only means of treatment.

ANGIOMA

(ἀγγείον—a blood-vessel)

There are several forms of angioma which occur in the skin. Nævus araneus, or "spider" nævus, is most common on the face, and consists in a dilatation of the small vessels, which assume a form somewhat resembling a spider's web, a large vessel in the centre taking the place of the spider. It may increase to a considerable size. Then there are the small, angry-red angiomata, which are common upon the chest and back, but may occur in other situations also.

Nævus flammeus is the familiar port-wine stain most frequently observed on the face, less often on other parts of the body. According to Unna, it is due to the intermittent pressure exercised on the foetus during intra-uterine life by the bones of the maternal pelvis.

TREATMENT.—Spider nævus is very easily dealt with. Electrolysis of the central point usually cures it permanently in one or two sittings. The small rounded nævi are pretty easily disposed of by the same means, and if that method is not convenient, either of them may be treated by the application, on a very fine point, of some caustic such as nitric acid, the acid nitrate of mercury, carbolic acid, or the ethylate of sodium.

Port-wine stains are not very often improved by treatment. It is, no doubt, possible to produce improvement by electrolysis, but the process is wearisome, and the results are too uncertain to make it a method strongly to be recommended. Unna has tried treating these cases with prolonged pressure, but I do not know that his results were very satisfactory. Jutassy reports the complete disappearance of a port-wine mark after a series of exposures to the X-rays; and Levack, of Aberdeen, has published three cases where extensive port-wine stains were thus successfully dealt with. He intentionally produced a considerable reaction, which took several weeks to heal.

In this condition, too, the new freezing method seems to be as efficacious as is radium. It must be remembered that in treating port-wine marks one is asking a great deal of any treatment. The dilated vessels are in the skin, and in seeking to destroy

them without injuring the skin, one clearly sets one's self a hard task, and only the patients who are really in earnest should be submitted to the treatment. But persevering use will at least remarkably pale the lesion—I have not had cases under my notice for sufficiently long periods to speak of cure. Pusey's remark that skins which have been exposed to X-rays react more readily to the freezing method may be noted in this connection, and a series of X-ray exposures considerably short of reaction may be made before the freezing treatment is commenced.

The larger nævi common on the scalp in infants may also be treated successfully by CO_2 . It is astonishing how placidly the infants submit to the treatment, and how little trouble the reaction causes.

LYMPHANGIOMA

This is a tumour of the lymphatic vessels, which may appear on any part of the skin. It is unnecessary here to discuss the question whether lymphangioma or lymphangiectasis is the more suitable term for individual cases. When once present it is of little practical importance whether the lymphatics are new formed or merely existing ones dilated. The little growths appear in irregular groups, and look like vesicles; in fact, cases are frequently mistaken for zoster, from which, of course, they are easily distinguished by their history. The vesicles are deep and have thick walls, and when pricked discharge, and continue to discharge, a colourless fluid. Often there is only one patch, whose appearance suggests that of a white raspberry opened out and inserted in the skin. Once fully developed they show no great tendency to spread, or if they do, spread very, very slowly.

TREATMENT.—The vesicles may either be dried up by electrolysis, which requires repetition several times, or the whole patch may be removed by the knife. Incision must go pretty wide of the disease, otherwise it tends to recur.

A case at present under my care has benefited markedly from repeated freezing with CO_2 .

ADENOMA SEBACEUM

Many cases of the disease to which this term is generally applied have certainly been lymphangiomata. In one case which has been many years under my care I have, more than once, excised lesions, and have always found them of this structure, though in other cases tumour formation in connection with the sebaceous glands has been noted. The disease occurs most frequently on the faces of children whose mental development is below par.¹ Very often there is a history of fits in infancy, and the development of the disease has been attributed by some to the large doses of bromide of potassium then administered. The little tumours are whitish or reddish yellow in colour, cover the whole face, though they are most numerous on the nose, cheeks, and chin, and have between them small teleangiectases, which give the face a mottled appearance. Now and then one enlarges to an inconvenient size, but as a rule the disease is troublesome only on account of the disfigurement. The Plate shows the disease in its most characteristic form, and one or two of the fibromata which are often present. As the child gets older the disease tends to moderate if not to disappear, but this takes long, and a great deal can be done by treatment. Electrolysis was not very successful in the case mentioned above, and I had much better results from destroying the larger lesions with the fine point of Unna's microbrenner, while, where the lesions were smaller, I ironed the surface with an ordinary Pacquelin cautery at a dull heat. At the first opportunity I shall give the freezing method a trial.

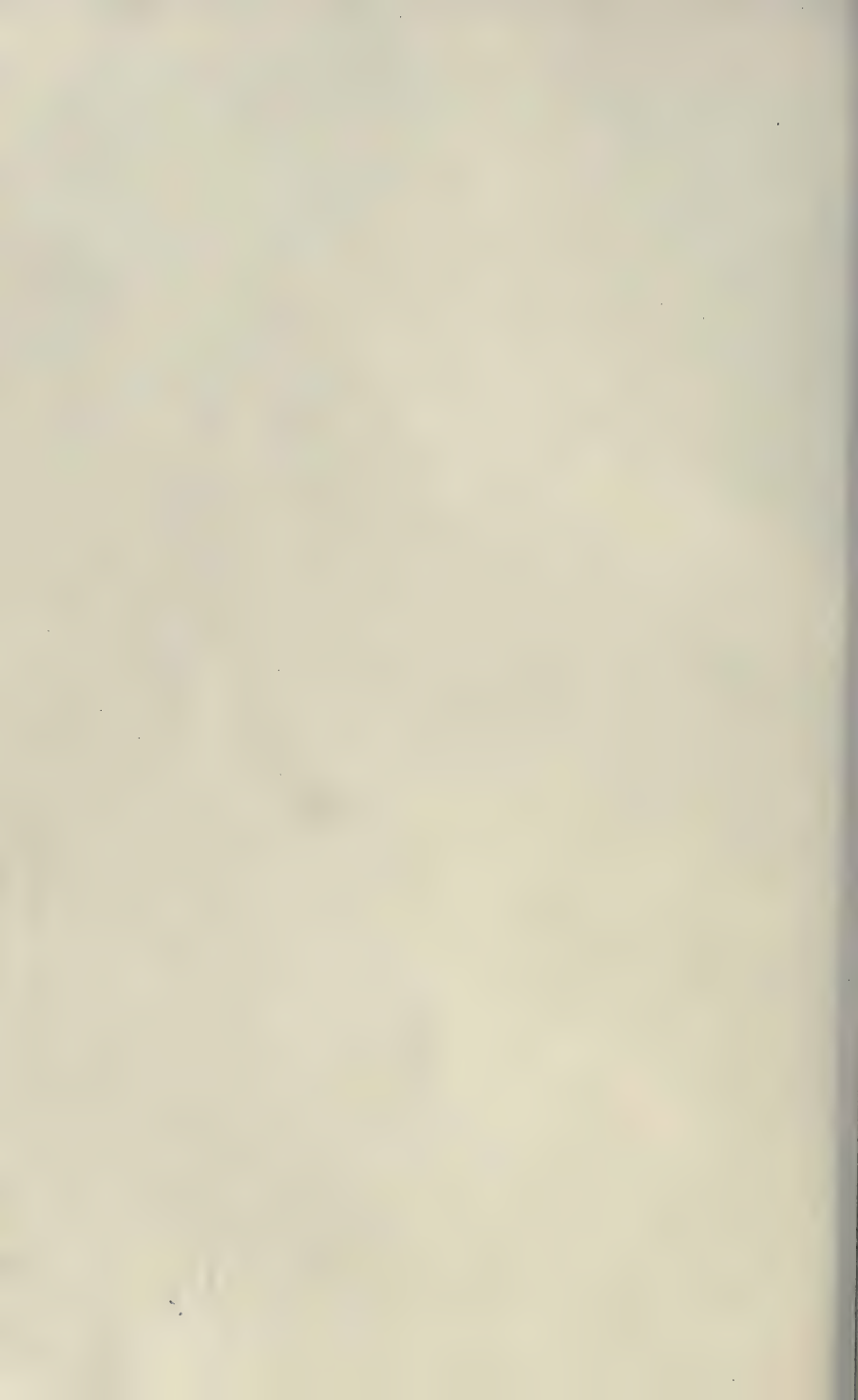
MYOMA

The leiomyomata are the only varieties that occur in the skin. They take origin from the cutaneous muscles, and may develop on any part of the skin, but are most common on the arms of women. They are firm, of a reddish colour, and usually excessively painful. Excision is the only remedy.

¹ The disease is fairly common in imbecile institutions.



ADENOMA SEBACEUM.



CHONDROMA, OSTEOMA

Both these tumours may occur in the skin, but so rarely as to make them merely curiosities.

CLAVUS

(*Clavus—a nail*)

Corns are placed by Unna among the tumours, and there seems to be no particular reason why the horny cells should not have as much right to form tumours as any others. The corn is a dense thickening of the horny layer, usually conical in shape, which may form at any part exposed to intermittent pressure. Constant pressure causes atrophy, intermittent pressure encourages growth. Corns are too familiar to require any description, and only very brief remarks with regard to treatment are necessary. The best application is salicylic acid, which may be applied dissolved in collodion, to which it is customary to add some cannabis indica to diminish the pain.

R	Salicylic Acid	℥ ^{ss}
	Tinct. Cannabis Indicæ	℥ ^{xx}
	Collodion	℥ ^{ss}

This is painted on every night, and in about a week the dead epidermis separates. The application should be renewed again and again until the surface is quite level. I am convinced this method would be more popular if it were not for the common opinion that one course of the treatment is enough. It should be renewed at least four times. Sometimes salicylic creosote plaster is more convenient, and it is more rapidly efficacious than the collodion. Treatment is, however, of little avail if the original cause is still in existence. The patient must wear loose-fitting foot-gear, and, preferably, woollen stockings.

ANGIOKERATOMA

(ἀγγείον—a vessel; κέρας—a horn)

This is a mixed form of tumour which may be roughly said to be a combination of an angioma and a corn. It occurs in

groups, particularly on the hands, feet, and ears, more rarely on the limbs, of those who are subject to chilblains or to "dead fingers." The appearance varies according as the angioma or the keratoma predominates. In the early stages the former is more apt to prevail, and there are a number of little, hard, red, lenticular spots; as the disease advances the horny layer thickens, and sometimes greyish, horny-looking patches obscure the reddish colour beneath. They bleed very freely when injured. The condition is sometimes associated with tuberculosis.

TREATMENT.—The best immediate treatment of the lesions is electrolysis, but the real treatment consists in taking such steps as will improve the circulation and prevent the recurrence of fresh lesions in the following winter (see Chilblains). It is my intention to give a trial to Bier's congestion method in the next suitable case.

CORNU

A cutaneous horn is rarely observed nowadays. Most cases probably had their origin in a broken-down dermoid or an atheroma, and as such neglected cases now rarely occur, cutaneous horns are pretty well limited to museums. The only treatment for them is, of course, removal.

XANTHOMA (XANTHELASMA)

(ξανθός—yellow)

As the name indicates, this growth is characterised by its yellow colour. The cases may be divided either into the plain and tuberous forms, or into *Xanthoma palpebrarum* and *Xanthoma multiplex*.

Xanthoma of the Eyelids is an affection which commences in middle life, as a minute yellow spot. This extends into a patch varying in size, which sometimes spreads so as to form a complete ring round the eye. It is slightly raised above the level of the skin, and has a wrinkled appearance. The usual

comparison to a piece of chamois leather let into the skin is a very appropriate one. Growth is very slow, but there is no tendency to absorption. The yellow colour is due to the presence of fat, and xanthoma is usually looked upon as a connective-tissue growth in which the cells have undergone fatty degeneration. According to Unna, this is incorrect. He maintains that the fat in xanthoma palpebrarum is situated in the lymph spaces, and is in reality a sort of fatty infiltration of the orbicularis muscle, comparable to the fatty deposits in some senile hearts. The giant cells which are found in the growth are, he says, sections of dilated lymphatics, and the ring of nuclei is composed of those in the walls of the vessels. There is no pain, and as a rule little inconvenience is caused by the growth. Excision is the only treatment which can be surely depended upon, though cases have occasionally been successfully removed by electrolysis. My friend James C. Johnston tells me he has used with success M'Guire's plan of applying trichloroacetic acid. He brushes the part with the crystals; when the scab separates a fresh application is made. He has never needed to make more than six applications. CO_2 is worthy of a trial.

Xanthoma multiplex or tuberosum.—This is apparently quite a different form of growth. It usually develops during the early years of life, and while it may appear on the eyelids, it is more commonly seated on the limbs, the palms, and soles, or the trunk. When it develops in adults it is very often associated with jaundice, and this connection is occasionally seen in children. Like the eyelid form, this owes its yellow colour to fat, but apparently in this form of the disease the fat develops more certainly in the generally supposed way; that is to say, a growth of connective-tissue cells which undergo fatty degeneration is much more readily observed, and giant cells are not found. Cases have been known to involute, but as a rule they grow to a certain size, about that of a shilling, and remain stationary, so that if their removal is desired excision is the best treatment.

Xanthoma diabeticorum.—This is a variety of the disease associated with glycosuria, all the cases in which it has occurred either having glycosuria or developing it subsequently. It is

not very distantly related to the generalised variety, but is more rapid in its course.

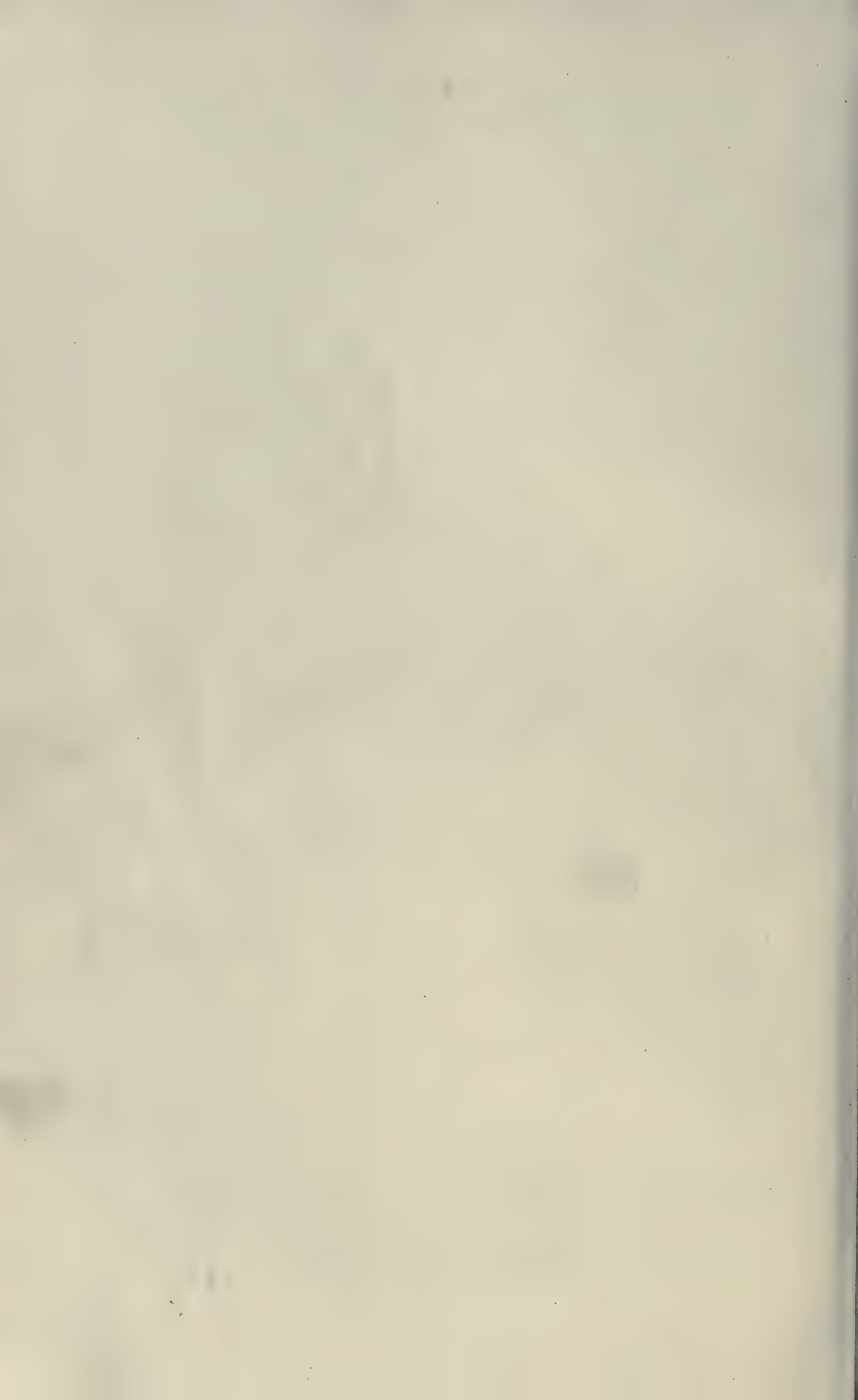


FIG. 72.—Xanthoma diabeticorum.

The growths commence as little hard swellings, of a reddish colour, and it is only later that the fatty degeneration sets in and the yellow colour appears. The sections show the structure



XANTHOMA DIABETICORUM



of connective-tissue tumours, some of the cells showing fatty degeneration. A considerable amount of fat is found in the tissue spaces, and may have been derived from broken-down cells. This form of xanthoma has its special seats of election on the elbows and knees, and then on the loins and buttocks. Fig. 72, which is from a case of Unna's, shows the condition well, and for the opportunity of taking the cast from which the coloured Plate is taken I am indebted to my friend Dr. Gulland. I introduce this because the coloured illustration in a former edition led to the diagnosis of two cases of this rare disease.

The prognosis depends on the glycosuria. If that gets better the skin eruption disappears. Any local treatment is of quite secondary importance.

XANTHELASMOIDEA

(*Xanthelasma* and *εἶδος*—form)

Clumsy though this name may be, it appears to me eminently more applicable than the more generally used one of *Urticaria pigmentosa*. The disease is rare. It appears very early in life, and the first signs observed are usually those of urticaria. Typical wheals are undoubtedly present in most cases, but there is a further lesion which gives the disease its characteristics. Numbers of flat elevated areas, varying in size, appear all over the skin, and do not, like the wheals, disappear. They vary from pale to deep yellow or yellow-brown in colour, and the resemblance to xanthoma is often remarkable. In particular, the skin over them is not tense, as it is in the urticarial wheal. After a period of slow increase they gradually disappear, and as a rule vanish entirely in the years between puberty and adolescence. Cases are, however, on record where the lesions have been persistent. Under the microscope the tumours are found to be composed almost entirely of Ehrlich's mast cells, and their persistence seems to be an argument in favour of the connective-tissue origin of these peculiar cells, and against their origin from leucocytes.

Time is the only remedy. No treatment has any effect upon the condition.



FIG. 73.—Xanthelasmaidea (*Urticaria pigmentosa*).

SECTION VII

MALFORMATIONS

THERE are many conditions which, in any complete system, would require to be described under the malformations of the skin; particularly certain tumours developed in connection with the glands, and certain forms of moles. Dermoids and atheromata are clearly malformations, but for their description larger works must be consulted. The two of practical importance are Hyperkeratosis congenitalis and Hypertrichosis.

HYPERKERATOSIS CONGENITALIS

This is the condition which is usually described as congenital ichthyosis, the "harlequin foetus." In it there is an excessive cornification of the surface cells, and the child is born clad in a sort of horny armour. As it grows and moves its limbs this tends to crack in various directions, dependent on the movements. The disease is practically universal, all the skin being affected, and in this as in other points it differs from ichthyosis. As a rule the subjects of it do not survive, but where the disease is present in its less severe forms they sometimes do. It is distinguished from ichthyosis by the fact that it is present at birth, whereas ichthyosis appears towards the end of the first year of life; and by its distribution, which is universal, whereas ichthyosis is rarely very widespread at first, and hardly ever affects the palms and soles, which this disease always does. The treatment consists in liberal nourishment, cod-liver oil, abundance of milk, etc., the cautious use of thyroidin, and the local application of weak salicylic ointments which tend to promote more normal cornification.

HYPERTRICHOSIS

Hypertrichosis, or the growth of hair in abnormal situations, is a condition the treatment of which some consider beneath the dignity of a physician. It is, however, a very real affliction to the unfortunate females who are its victims, and the depression which it induces often has a serious effect on their mental condition.

It is a mistake to suppose that the growth of hair on the face is indicative of masculinity of character, though the possibility of mistaken sex should be remembered. While no doubt the development of a moustache strengthens the appearance of a strong-minded woman, hypertrichosis is frequently present in the most feminine of the sex. In most cases it is not possible to discover any apparent cause for the growth, but I am satisfied that repeated greasy applications, such as vaseline or cold cream, strengthen the growth of downy hair, as does the possession of an abnormally greasy skin.

If the hairs are few in number, and especially if they are growing from a mole, electrolysis is the most satisfactory means of treatment. It is a method which requires a good deal of skill, and everyone must look back upon much time wasted in his early cases.

The patient should be comfortably seated in a chair, and hold in one hand a handle connected with the positive pole of the battery, or dip one or more fingers in a basin of water connected with it. The operation is done with a needle connected with the negative pole. This is introduced into the follicle as accurately as possible in the line of growth of the hair. A current of from three to five m.a. is passed for a few seconds, during which a white froth appears at the mouth of the follicle, and if the operation has been successful the hair can then be lifted out easily. One practised in the method can remove a great many hairs in an hour, but the beginner should confine his attention to a few, and do them thoroughly. In towns with the constant electric current the electricity may be derived from the main, passed through a suitable resistance, but when this is not available a battery of Leclanché cells is quite satisfactory.

It was for their depilatory effects that X-rays were first used therapeutically. A great many accidents happened, many patients were burned, others developed teleangiectases more unsightly than the hirsutes, and the more cautious dermatologists looked askance at the treatment. But now that the rays are more manageable the method in *expert hands* is capable of being made use of in the really serious cases where a girl's whole life is being ruined by the affliction. But no beginner should use the rays for this condition save in his own family.

If for any reason these methods are not applicable, mechanical removal only remains. Women have an invincible objection to the razor, and invariably prefer some other form of removing the hair. Carefully applied, depilatory remedies are not so terribly injurious, and they need not be by any means so expensive as they usually are when sold as secret remedies. The sulphides of barium and calcium are those commonly used. The former, mixed with equal parts of oxide of zinc and starch, is made into a thick paste with water and spread on the part. When dry, in about ten minutes, it is washed off, and the dissolved hair comes with it. The part should then be powdered to diminish the slight irritation of the application. The sulphide of calcium is more active, and destroys the hair rather farther down the follicle, but it is liable to produce a good deal more inflammation than the barium salt. It is necessary to make it very clear to the patient that the effect is only temporary.

SECTION VIII

SAPROPHYTES

IN following Unna in placing pityriasis versicolor and erythrasma under this heading I must confess to some misgiving. It is true that, considering the amount of fungus present, there is very little disturbance, but there is sometimes a little scaling in pityriasis versicolor; not so much as the name would lead one to expect, but still enough almost to warrant one in regarding it as a very superficial inflammation.

PITYRIASIS VERSICOLOR

This disease is due to the growth in the superficial layers of the skin of the fungus known as the *Microsporon furfur*. It occurs most commonly upon the trunk, and only rarely on the limbs and face. It consists in the development of yellowish areas, of various sizes, shapes, and shades. The larger patches are formed by the aggregation or enlargement of smaller ones, and the shade of colour varies from a pale yellow to a rich brown. The disease is most common in those who perspire freely and do not change their garments sufficiently often, and it was certainly very common in consumptive persons when avoidance of cold at all hazards was considered essential in the treatment of that disease. Whether owing to the different views which now prevail or not, cases certainly occur with much less frequency in Edinburgh than formerly, and students have far fewer opportunities of becoming familiar with the disease than their predecessors of a few years ago. There is very little of the scaling which the name implies, though scales may be scraped off readily enough with any blunt instrument, and the only disturbance which the patient suffers from is slight itching.

When the scales are examined in a drop of liquor potassæ

under the microscope the well-known appearances of the fungus are shown. All who possess a manual of physical diagnosis are familiar with the bunch-of-grape-like spores and the long filaments of the fungus. If, however, the surface layer of the skin is removed *en masse* by the application, for a day or two, of salicylic plaster, the natural arrangement of the fungus may be studied. If a portion of the removed horny layer is stained by Morris's method (see Ringworm), it is found to contain an enormous amount of fungus, an amount so enormous that it is hardly possible to see through its dense felting, and the spores are now by no means easy to detect. It would almost seem as if the potash disintegrated some of the fungus where the joints were very short and spore-like, and that these ran together by capillary attraction, as corks do in water.

DIAGNOSIS.—The disease with which those unfamiliar with it are most apt to confuse pityriasis versicolor is syphilis. The mistake should never occur. The history of long persistence, the distribution of the eruption, the slight itching, the profuse sweating, should all arouse suspicions of its nature, and microscopic examination will at once settle the point. In the scales of ringworm it is not always possible to detect the fungus; in the scales of pityriasis versicolor it is absolutely impossible to overlook it.

TREATMENT.—Treatment of the disease consists in the destruction of the fungus. It is often said that it is very apt to recur. Recurrence is a word which is often somewhat laxly used. If the disease is not removed it will undoubtedly "recur"; it is insufficient and inefficient treatment which is responsible for the recurrence. The part should be thoroughly scrubbed with soap spirit, so as to take away as much of the fungus as possible, and then the affected region should be painted with some antiseptic solution. Lotions of perchloride of mercury or hyposulphite of soda, sulphur ointment, resorcine, or salicylic ointment—any of these will destroy the fungus. Perhaps as good a method as any is for the patient to take a warm bath nightly, to wash the parts vigorously, and to paint on a solution of tar in spirit, $\frac{1}{2}$ to 1 drachm to the ounce. The possibility that spores of the fungus adhere to the underclothing should be borne in mind, and that should be changed frequently.

Whatever method is chosen must be carried out for two or three weeks; and always for a week at least after all evidence of the disease has disappeared. Eichhoff recommends the use of quinine soap for some time thereafter.

ERYTHRASMA

(ἐρυθρός—red)

Erythrasma is a disease which we rarely see in this country, but it is by no means uncommon in many places. It has many resemblances to pityriasis versicolor, but is invariably limited to the genital and axillary regions. It is of a dark reddish-brown colour, and has usually an abrupt bright red edge. When the horny layer is removed in the manner referred to in connection with pityriasis versicolor, it also is found to contain a dense felt-work of fungus. The threads are very much finer than those of the *Microsporon furfur*, and if the scale is broken up and made into a cover-glass preparation the fungus breaks up into bacillary-looking joints. A few spores are found among the felt-work. The fungus is known as the *Microsporon minutissimum*.

DIAGNOSIS.—The disease with which it is most apt to be confounded is ringworm, which often occurs in the same regions. The eruption of ringworm causes very much more irritation, the border is more raised, and very frequently has vesicles upon it. Erythrasma is often only accidentally discovered, so slight are the symptoms.

The treatment is the same as that of pityriasis versicolor.

SECTION IX

ANOMALIES OF PIGMENTATION

THE great "pigment" question, with its vexed points as to the nature and source of the pigment and the method by which it reaches the epidermis from the blood, is too large for discussion here. Unna classes the diseases in which pigment is increased with the Progressive disturbances of nutrition, and those where it is diminished with the Retrogressive. For practical convenience, in such a work as the present, the arrangement I have selected is more useful for students.

Increased pigmentation is associated with any long-continued inflammation of the skin, especially if the part be congested, or if itching has been a prominent symptom, but it is further very specially associated with certain specific diseases. The greyish-brown pigmentation around a syphilitic scar is quite characteristic, while the rich brown stain left on the disappearance of a patch of lichen planus often helps one in the diagnosis of a doubtful case. Neglected cases of pediculosis are often associated with extensive pigmentation.

True pigmentation is found in Addison's disease. It often results from the too-long-continued use of arsenic, under which circumstances it often affects all the areas of the disease for which the drug has been prescribed, and an apparent pigmentation due to the reduction of silver in the tissues occasionally follows on the ingestion of nitrate of silver (*Argyria*).

Pigmentation is an important feature in the early stage of the disease known as *Xeroderma pigmentosum* (*q.v.*), and an equally important feature in the mole, especially should it become malignant.

In all these cases other local disease is present; here we are concerned with those diseases where increase or decrease of the pigment is the only evident alteration.

EPHELIS OR LENTIGO

(ἐπί and ἥλιος—the sun; lens—a lentil)

Freckles are minute, lenticular accumulations of pigment, and, as the name suggests, occur mainly on those parts of the surface which are exposed to the sun. They are most common on the face and arms, and during the summer months. They are found mostly in fair young people, and may be looked upon as an effort of Nature to protect the deeper parts from the irritant action of the actinic rays of light. For the tissues beneath them they play the part of the photographer's red glass. Professor Alexis Thomson has called my attention to the occurrence of pigmentation, sometimes taking the form of freckles, on any part of the surface in patients who are affected with plexiform neuromata. The freckles which sometimes appear on all parts of the body in elderly people are possibly of the same nature as these, and some apply to them the term lentigo, and restrict ephelis to the ordinary freckle.

The development of freckles in those subject to them can be prevented by avoidance of exposure to the sun, the hands being protected by gloves, and the face by a veil, brown, red, or yellow in colour.

They can be removed by various applications, which, however, do not prevent the appearance of fresh spots. All the various remedies used produce an exfoliation of the epidermis. The most popular is sublimate. It must be cautiously applied. A half per cent. solution in spirit, painted on at night, is quite strong enough to commence with. Stronger solutions do indeed remove the pigmentation, but at the expense of a more or less severe blistering, which necessitates confinement to the house. If the patient is ready for such confinement the method of shelling the skin with resorcine, described on page 188, is much more thorough and successful. CO₂ snow has a wonderful effect in removing pigmentation. The various



VITILIGO.

bismuth salts have a certain depigmentary action, and may be used in ointments, as may boric acid and the peroxide of hydrogen. Unna recommends:—

R	Adipis Lanæ Anhyd.	.	.	.	ʒi
	Vaselini	.	.	.	ʒiij
	Liq. H ₂ O ₂	.	.	.	ʒss
	Hg. Cl. ₂	.	.	.	gr. j
	Bismuth Chlorid.	.	.	.	grs. v to xxx

Sig.—Apply at night.

CHLOASMA

(χλωάζω—to be pale green)

Chloasma is a diffuse or circumscribed pigmentation of the skin of the face, which is induced, not by external, but reflexly by some internal irritation.

It may occur in connection with hepatic, uterine or ovarian, or any abdominal disease (*e.g.* appendicitis), but the great majority of cases are associated with pregnancy. The spots vary in extent; sometimes they are round or oval in shape, sometimes they extend so as to resemble a dark mask. The tint varies from a light yellowish-brown up to a deep, almost black shade. The discoloration usually disappears with the termination of the pregnancy or the cure of the disease, but is sometimes persistent.

The pigmentation may be temporarily removed by the methods recommended for the removal of freckles, but it will return unless the cause is removed.

VITILIGO OR LEUCODERMA

(*Vitulus*—a calf [*spotted?*], or *vitium*—a defect; λευκός—white, and δέρμα—the skin)

In this disease the disappearance of pigment from the skin and the hair on it is the *only* anomaly present.

The disease commences as a small round or oval area, which increases in size, while fresh spots develop, until very large areas of the surface are entirely blanched, as shown in the Plate opposite.

Very often the skin immediately margining the patch

seems more deeply pigmented than the surrounding parts, suggesting the idea that the pigment has been driven from a centre by some centrifugal force. The skin of the rest of the surface, too, often appears somewhat darker than normal, but it is doubtful whether this is not merely the effect of contrast.

While the disease is much more common, as it is much more striking, in the darker races, it is far from uncommon in this country; but it often escapes notice, so slight is the contrast presented on the white skin of the Anglo-Saxon.

The disease gives rise to no symptoms, and is of purely cosmetic importance, except that it is sometimes confused by those not familiar with the diseases of the skin with the much more important scleroderma. There should be no difficulty in distinguishing the two, for while in this disease the change is *only evident to the eye*, the skin feeling perfectly normal, in scleroderma there is often hardly any change visible on inspection, and it is only when an attempt is made to pinch up the skin that the hardness is noted. Biblical allusions lead some to fear that they are suffering from leprosy, but the absence of anæsthesia is distinctive. Vitiligo is entirely free from any danger to life, and gives rise to absolutely no symptoms.

TREATMENT is not very satisfactory. If the patch appears on an exposed part, attempts may be made to induce a certain amount of pigmentation in the white spot by mild counter-irritation. Painting with diluted Fowler's solution has sometimes been successful in my hands. The chances of success are, however, not very great, and the best prospect for the patient is that the disease will become so extensive that the whole region is affected. The connection of the suprarenal bodies with pigmentation has suggested the administration of their active principle. The little girl from whom the Plate is taken took several bottles of suprarenal tablets without any benefit. And such is my usual experience, though one lady for whom I prescribed them subsequently wrote me from India to report quite distinct improvement.

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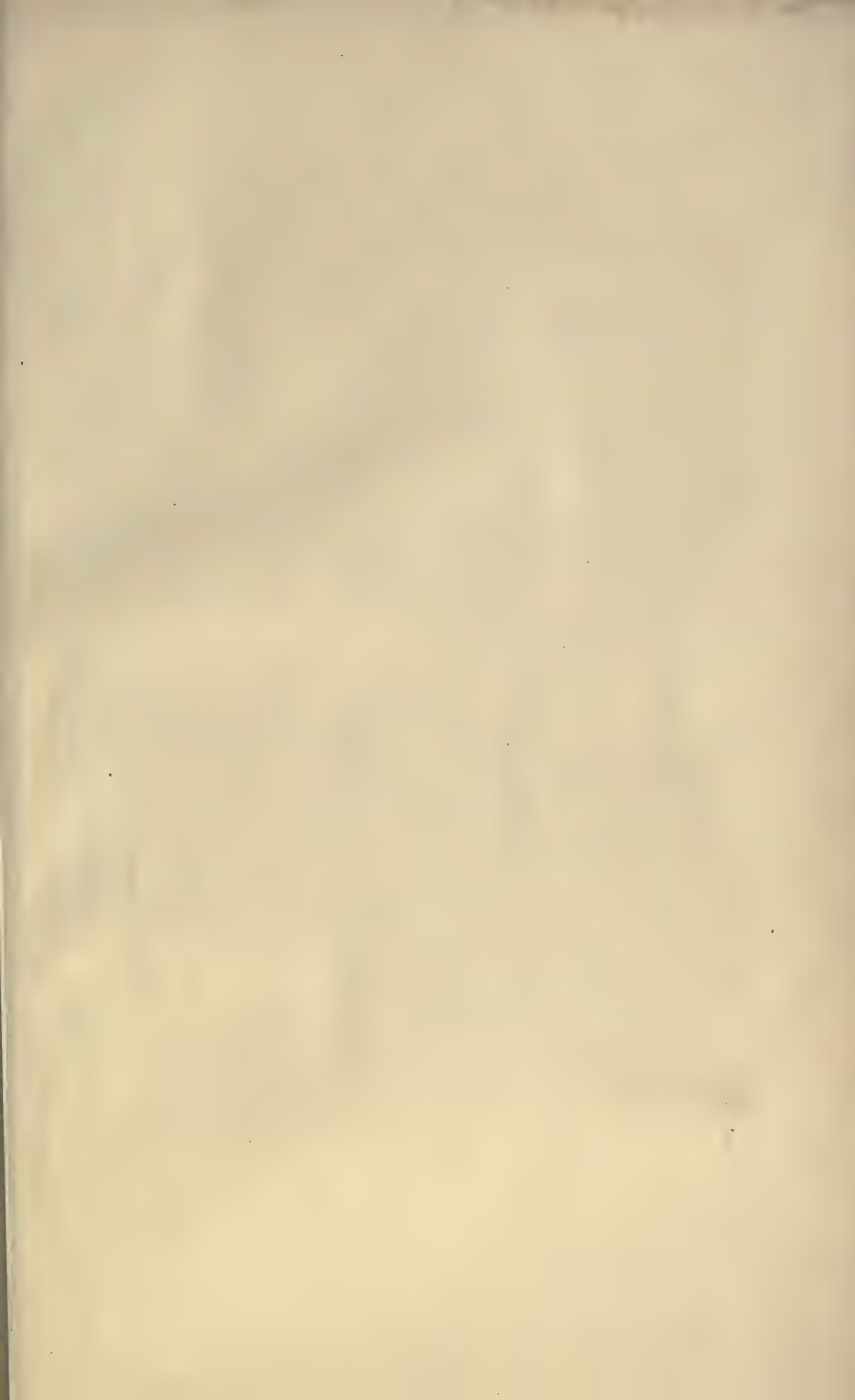
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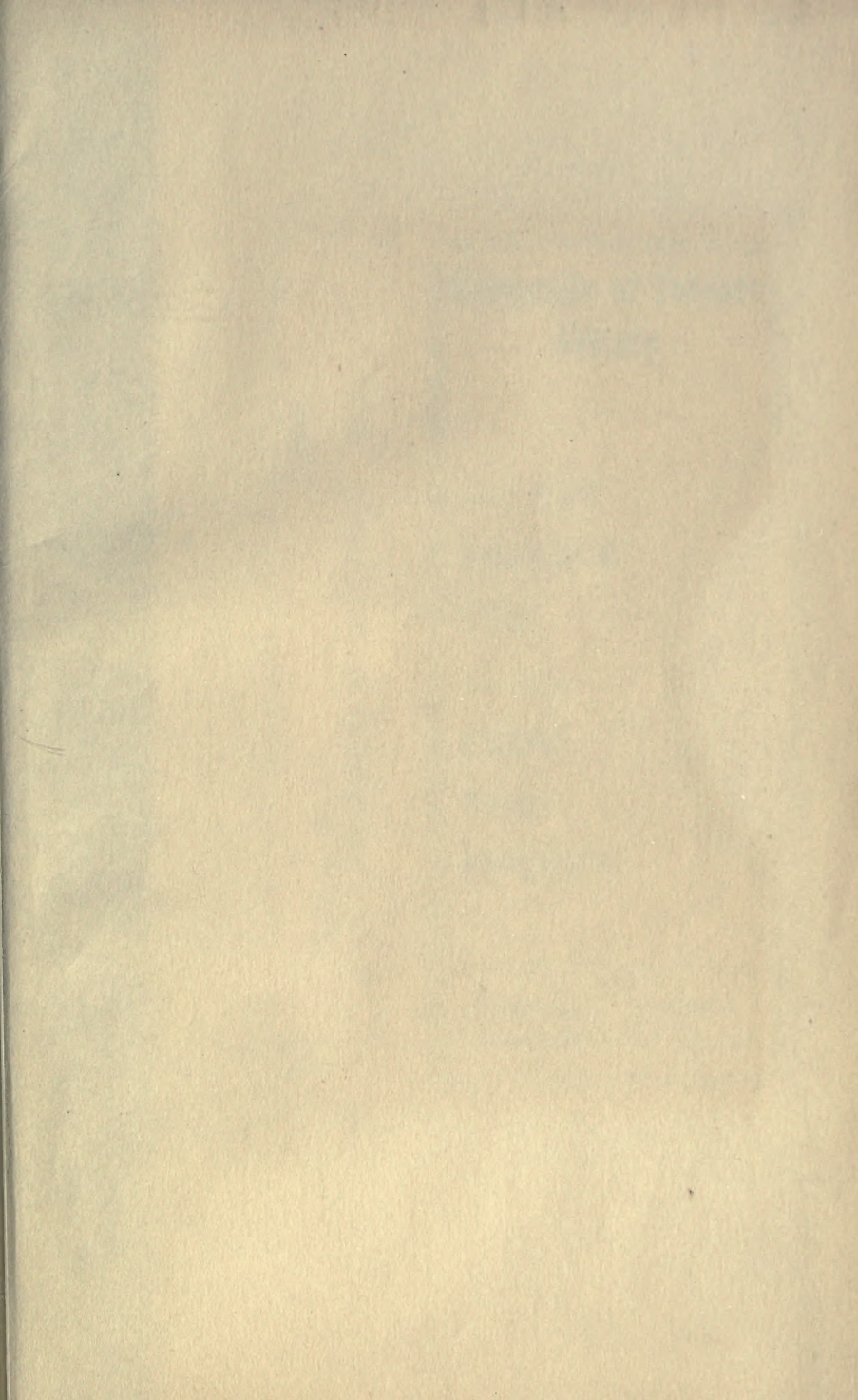
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